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The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

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UGHES TOOL COMPANY · HOUSTON, TEXAS · U. S. A.

VOLUME 82 JULY 27, 1936 NUMBER 7

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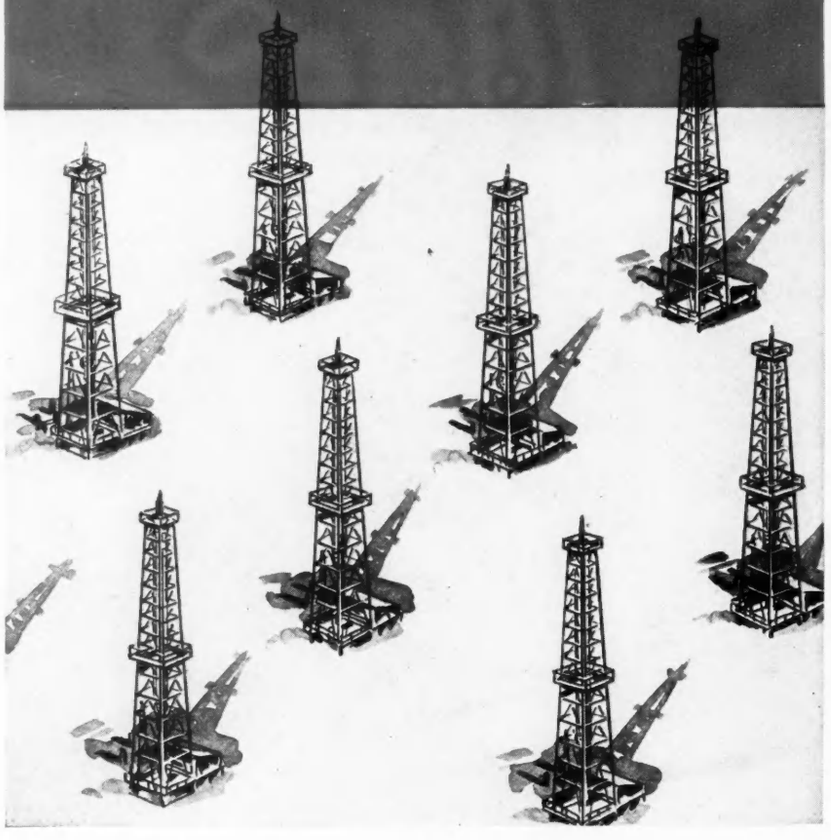
New DRILLING Records



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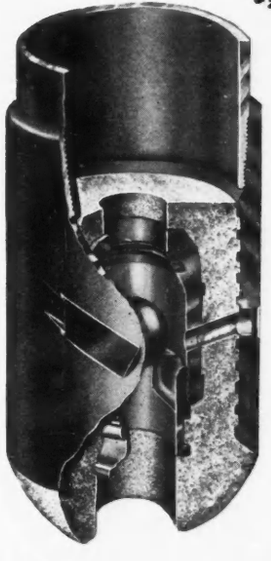

Look on Page 176 of your 1936 **COMPOSITE CATALOG**

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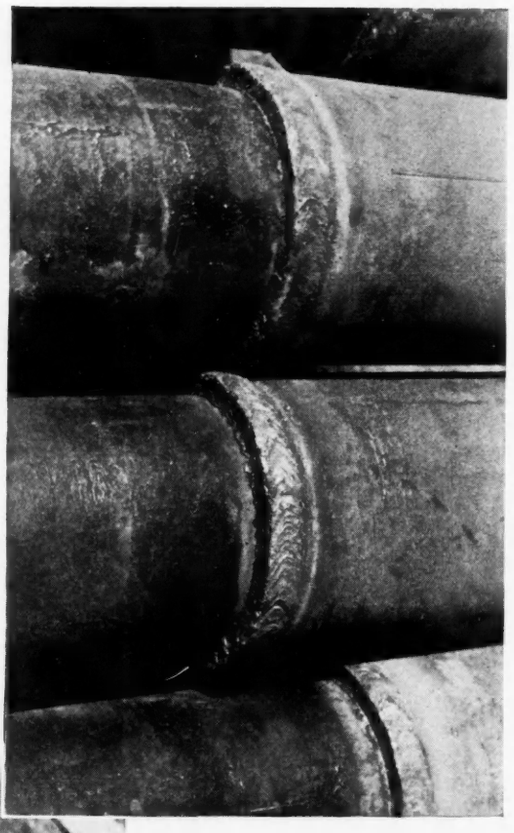

Photos of welded tool joints used in Oklahoma City field. Note unretouched photo to left, tool joints on two sections not equipped with Patterson-Ballagh Protectors worn smooth by contact with casing. The sections equipped with Protectors are not worn. Visible evidence!

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JUL 29 1936

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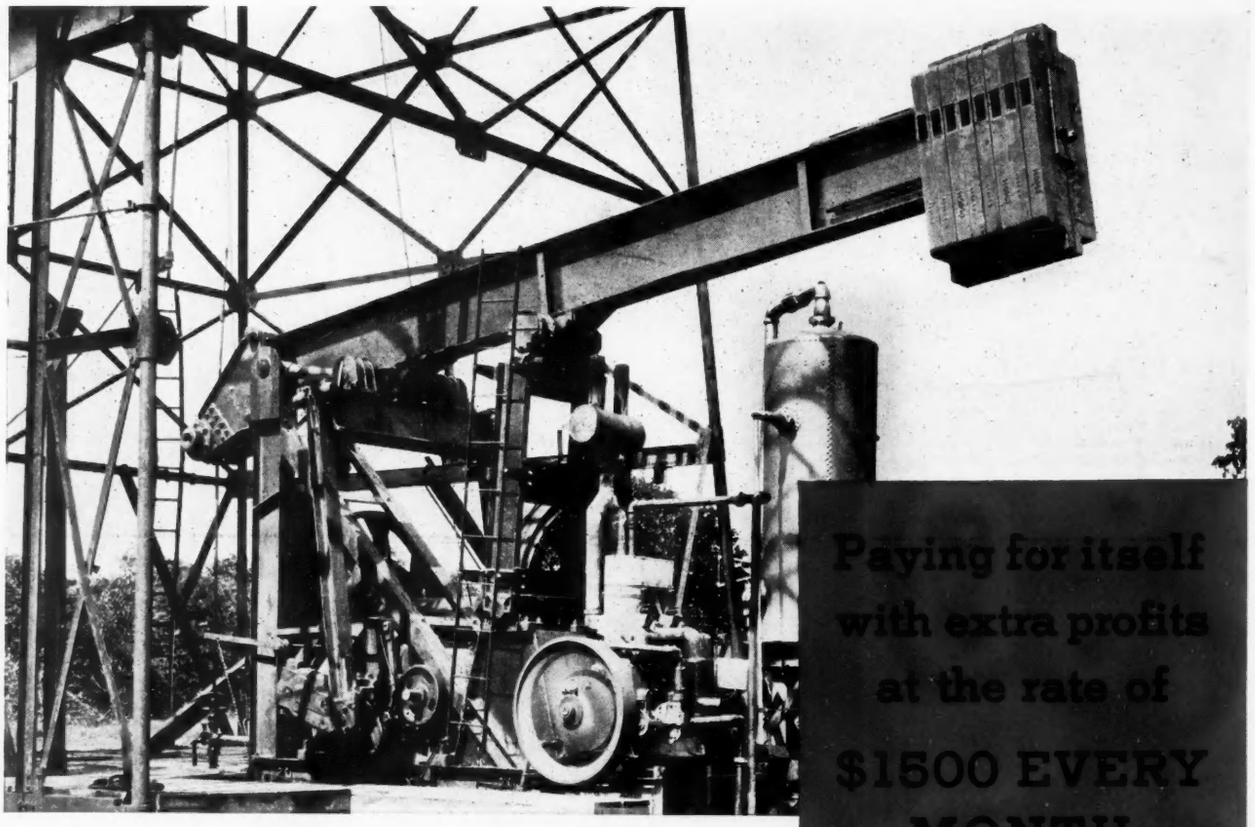

Paying for itself with extra profits at the rate of $1500 EVERY MONTH

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor

. . . this Week

EXTENSION of the Connally Contraband Oil Act, which expires by limitation June 30, next, will be sought of Congress early in the coming session by Secretary of the Interior Ickes. Necessity for continuing the law is seen by the secretary who this week announced he would ask Congress to renew the legislation. Production at the present time is breaking all previous records in the history of the industry and it is feared that if the law were permitted to lapse next summer the industry would immediately be precipitated into chaos. While the law at present is applied only with respect to East Texas oil, it could immediately be extended to any other field which gave indications of going wild. Its extension to the Rodessa field was threatened a few months ago.

"UNDOUBTEDLY the future will see an even more extensive application of controlled directional drilling to production practices," says Denis Sneigr. His article carries an illustration showing how directional drilling can be used to contour a salt dome and drill to production under an overhanging cap rock. In one field piers have been built and multiple drilling projects, all started from one pier, have been used to develop sub-sea leases. This method of drilling can be applied to townlot drilling as well as to ocean or bayou leases. **Page 22.**

A MICHIGAN concern is going to defy the state authority which says that Grand Rapids gas shall be mixed 50-50 natural and artificial. Contention is that the ruling is arbitrary. Seems that the regulatory body seeks to prolong the supply of natural gas because of estimated limits of the source of supply. Regulation of use of natural resources cannot reasonably be based on other than prevention of economic waste, and it does seem that if a pipe line company can sell its product it is no concern of conservationists whether it is all used in 100 days or 100 years, so long as it is not wasted. **Page 57.**

M. A. SCHELLHARDT and E. L. Rawlins, Bureau of Mines men, go into a comparison of output and intake characteristics of natural gas wells in the Texas Panhandle in the second of a series of articles being presented by THE OIL WEEKLY. The series is based on field tests. **Page 25.**

VISCOUNT BEARSTED chairman of the board of Shell Transport & Trading Company, recently told stockholders in London that various taxes on the oil industry there amounted to more than 10 percent of the national revenue. Despite this, the company increased dividents on common stock from 12½ percent per annum to 17½ percent. The viscount emphasized the necessity of broad programs of road building and reconditioning to provide elbow room for expansion of the oil, automobile and other industries. He scored the roles of Louisiana and California in keeping a mental hazard in the path of market stability in the world of oil. Another thing pointed out by Bearsted was the economic folly of manufacturing substitutes for petroleum products as a result of governmental pressure. **Page 52.**

The Oil Man's Calendar

JULY 31	**Interstate Oil Compact Commission, Dallas, Texas.**
AUG. 11–16	**Michigan Oil and Gas Exposition, Mt. Pleasant, Michigan.**
SEPT. 7–12	**World Power (Fuel) Conference, Washington, D. C.**
7–12	**American Chemical Society, Pittsburgh, Pennsylvania.**
16–18	**National Petroleum Association, Atlantic City, New Jersey.**
	American Petroleum Institute, Division of Production, Mid-Continent District, Probably at Oklahoma City.
OCT. 5– 9	**National Safety Congress Petroleum Section, Atlantic City, New Jersey.**
	American Institute of Mining and Metallurgical Engineers Cleveland, Ohio.
NOV. 9–12	**American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.**
NOV. 30– DEC. 1	**Independent Petroleum Association of America, Biltmore Hotel, Oklahoma City, Oklahoma.**
NOV. 30– DEC. 4	**American Society of Mechanical Engineers, Annual Meeting, Society's Building, New York.**

GERMANY long ago had to solve the problems of townlot drilling confronting the domestic situation at such fields as Talco and Oklahoma City. Hanigsen field presented such a problem, but the G. E. Oil Company of Hannover, Germany, worked out a solution satisfying eight landowners with four wells. The four wells were drilled in such a manner that each of the eight leases had a well thereon. Initially there was quite a bit of dissatisfaction on the part of the landowners, but eventually they saw the value of the scheme to them, as well as to the oil company, and a lawsuit was avoided. **Page 19.**

MAGNOLIA'S new 20,000 barrel emulsion treating plant at Luling, although in operation only a short time, has shown the desirable features of conserving energy, increasing treating efficiency, and decreasing costs. Oil from Luling field contains a large amount of basic sediment and sulphur water, the average well output consisting of about 80 percent undesirable fluid and 20 percent oil. The plant consists of two 104-horsepower boilers, six 1600-barrel tanks, one 3600-barrel tank, three 2000-barrel tanks, two 2600-barrel tanks, six 185-barrel treating units, pump station and auxiliary equipment. **Page 34**

Order Attacked

PANAMA CONTENDS JUNE RULING UNCONSTITUTIONAL

HOUSTON.

CONSTITUTIONALITY of the Texas Railroad Commission's order of June 24, 1936, requiring proof of the legality of oil imported into Texas as well as that produced in the state before granting tenders for shipment to applicants, was attacked here July 23 by attorneys for Panama Refining Company appearing before a three-judge Federal court.

The case arose over refusal of the Railroad Commission to grant tenders for 4048 barrels of distillate produced in Rodessa, Louisiana, and shipped to the plaintiff's plant at Kilgore for processing. The commission refused to allow the plaintiff to ship products of the distillate to market because proof of the legality of the distillate's production and source were not furnished.

Plaintiff counsel contended the oil had moved in interstate commerce and that the Texas Railroad Commission had no right to inquire into its origin beyond the state border or to place any penalty upon it because it was imported. They pointed out plaintiff could not be expected to furnish certificates from the Louisiana officials showing origin and legality of the oil because the Louisiana authorities issue no such certificates.

The state contended the defendant was fully within its rights in requiring the proof refused by the plaintiffs on the theory that the Connally Act classes as contraband oil produced illegally in any state and permits the Railroad Commission to prevent the intrastate movement of such contraband.

Plaintiffs contended, also, that the order in question was not concerned with the prevention of waste and the conservation of Texas resources, but that it was concerned with the protection of Texas markets against competition of other states, particularly Louisiana.

Presiding Judge Joseph C. Hutcheson indicated during the proceedings that any attempt to interpret the order as permitting the commission to consider that portion of an interstate movement from the state line to destination as intrastate, and therefore under the commission's jurisdiction, would die aborning.

Judge T. M. Kennerly of Houston and Judge R. J. McMillan of San Antonio occupied the bench with Judge Hutcheson.

ASK SPACING RULE

McCamey operators fear concentrated drilling

AUSTIN.

OPERATORS in McCamey field, Upton County, have requested that the Texas Railroad Commission promulgate a rule requiring 10-acre spacing for that field.

At a hearing before the commission last week these operators pointed out that the field, now 10 years old, had been developed on 10-acre spacing without necessity for a special rule. During the past few weeks, however, one operator in a new part of the field has indicated that he would space his wells 150 feet from lease lines and 300 feet apart. Producers who had wells in the area expressed the fear that this might lead to highly concentrated drilling.

M. D. Bryant, the operator who wished to have close spacing for his wells, asked the commission for a delay, and the hearing was recessed until July 28. Meanwhile, commission officials indicated that they would issue an emergency 10-acre spacing rule so that conditions in the field would not be changed pending outcome of the hearing.

HEARING CALLED

Emergency spacing rule is issued for Rodessa

AUSTIN.

A HEARING on Rodessa field has been scheduled by the Texas Railroad Commission for August 5 at Jefferson, Texas. This order was issued after the hearing scheduled for July 16 had been postponed.

The commission has also issued an emergency spacing rule which will allow the drilling of one well to 20 acres. Locations must be 466 feet from lease lines and 933 feet apart. This rule was issued at the request of operators who feared concentrated drilling would be an accomplished fact before a rule could be issued.

TAXES

Industry pays federal treasury $200,000,000

WASHINGTON, D. C.

MORE than $200,000,000 was collected by the federal government from the oil industry during the fiscal year ended June 30, last, it is indicated by tax collections figures made public July 23 by the Bureau of Internal Revenue, an increase of nearly $15,000,000 over the collections for the preceding fiscal year.

The bulk of the receipts were from the tax on gasoline, which brought in $177,119,040 in the 1936 fiscal year compared with $161,532,292 in 1935, an increase of $15,586,748. No estimate of the increase in gasoline consumption can be made from these figures, however, since during part of the 1935 fiscal year the rate of tax was 1½ cents per gallon whereas during 1936 it was 1 cent per gallon.

Collections from the tax on lubricating oils declined $697,417 in the fiscal year 1936, from $27,800,248 in 1935, to $27,102,831, and the receipts from the processing of crude oil, on which the rate was changed, dropped $596,035, from $1,759,789 to $1,163,754.

Receipts from the tax on the transportation of oil by pipe line increased $314,274, from $9,479,721 to $9,793,995.

June collections from the gasoline tax showed an increase of $2,650,000 over the same period in 1935, representing an increased consumption of taxable gasoline of about 265,000,000 gallons. Receipts last month were $17,762,293 compared with $15,112,336 in June, 1935.

Collections from lubricating oils, however, declined by more than $400,000, amounting to $3,258,687 against $3,676,357 last year, but receipts from pipe line transportation increased nearly $50,000 from $880,973 in June, 1935, to $928,015 in the same month this year. Receipts from the processing of crude were cut nearly in half, dropping from $152,481 to $79,212.

Pelican Sold

TIDE WATER BUYS RODESSA "TROUBLE" LEASE

SHREVEPORT, LA.

ALTHOUGH final transfer has not been made, Tide Water Oil Company has contracted to buy, subject to title check and other formalities, the 120-acre Sexton lease in Section 14-23n-16w, on which are 13 producing oil wells, owned by Pelican Oil & Gasoline Company (A. C. Glassell and associates).

Various companies' names have been linked with possible sale of these properties heretofore. This lease is in the heart of the field, and only one of the wells has ever shown water and this was less than 1 percent. It was the securing of a special order to produce up to 20,000 barrels daily on this lease for a 60-day period starting last March 24 that aroused considerable excitement at Rodessa. The order was secured from the Louisiana Conservation Commission.

Explain Rule

RIGHT OF CAPTURE CLAUSE IS SLIGHTLY MODIFIED

AUSTIN.

In two opinions handed down by the courts last week further rulings governing the application of Rule 37, the Railroad Commission spacing rule, were explained.

In the case styled Magnolia vs. Blankenship, the United States Circuit Court of Appeals held that adjoining land owner whose lease may be drained by wells on an offsetting tract and who have no right to drill an offset under the rules, should appeal to the railroad commission for an allowable adjustment. This decision was handed down in the suit which Magnolia Petroleum Company brought to enjoin production from the Blankenship well after Blankenship had paid a fine of a thousand dollars. The court said:

"In Texas, oil in place in the soil is capable of ownership and conveyance, . . . but the ownership is qualified by what is termed the right of capture by adjoining landowners. Just as percolating waters are not capable of absolute ownership, so that if an adjoinder by sinking a well withdraws such water from a neighbor, the neighbor has no right of action, so also an owner of oil in place has been held to have no right of action against an adjoinder who, by sinking wells on his own land, drains away the former's oil, his remedy being to drill offsetting wells so as to get this full share.

1. "By its Rule 37 the railroad commission has (limited the drilling of wells), provided that in order to . . . protect vested rights . . . exceptional permits can be granted on hearing. It has also limited the allowable of wells in East Texas. These changes in the law have not abolished the ownership of oil in place nor the right of capture without liability to adjoinders. But by thus limiting the sinking of new wells and the production from old ones the right to capture oil has been modified and protection against drainage by offsets has been impaired so that adjustments are rendered necessary and new remedies proper."

2. "The provisions above referred to were recently considered in Brown v. Humble. Rule 37 was explained with reference to the fundamental property rights in oil and the exceptional permits to drill on small tracts. It was said, 'Each person still owns the oil or gas in place . . . conditions may arise where it would be proper to permit tracts to be subdivided and drilled . . . but in all such instances it is the duty of the commission to adjust the allowable so as to give the owner of such smaller tract only his just proportion."

3. "An owner unable to protect himself from drainage by an offset well is given the right to petition the commission, and the commission has power and a consequent duty to 'prevent injury to adjoining property' and to 'distribute, prorate or otherwise allocate the allowable production.' This we think is the remedy which Magnolia should seek if it believes that Blankenship is getting more than his fair share of the oil. It is certainly not equitable for Magnolia to have a perpetual injunction against Blankenship getting any while Magnolia continues to drain it all away."

Stanolind vs. Sartain

In the second case, Stanolind v. Sartain, the Stanolind contended that the Sartain well was unlawful and should be enjoined as a matter of right; that it caused physical waste, and that if it is allowed to produce it would ultimately produce more than the recoverable oil originally in place, thus drain Stanolind's property.

In this case, decided by the Third Court of Civil Appeals at Austin, the court said:

"If Sartain was entitled to develop his tract as a matter of right, and therefore entitled to at least one well, the fact that his well was drilled a few feet outside his boundaries could not be a subject of just complaint by appellant. Such (well) location being farther from appellant's lease than if it had been upon any portion of the Sartain tract, it was an advantage and not a detriment. The exact location of the boundary between the Sartain and London tracts concerned only the owners of those tracts. The only effect of enjoining production on the ground it was improperly located would be to require Sartain to drill another well which would be nearer appellant's lease and therefore more injurious.

"Considering the second contention: The fact that a well may tend to increase waste does not alone give an adjoining leaseholder the right to have its operation enjoined. As has been repeatedly held by this court, the spacing rule itself is predicated upon a finding that wells drilled in closer proximity tend to increase waste. Exceptions to the rule, granted to protect vested rights, presupposed some resultant waste or other detriment. The inherent right of the landowner to obtain his fair share of the oil in place is the basic consideration for the exception . . . which is deemed to outweigh other considerations for which the rule was promulgated. The commission has ample power to pass such rules or orders as may be necessary to minimize the deleterious effects flowing from exceptions to the rule. Total deprivation of the landowner's vested right to a fair share of the recoverable oil in place is not a proper remedy under our conservation laws.

"This question, and that involved in appellant's third contention, cannot properly be adjudicated in an application for temporary injunction. The well has been drilled, the only injunctive relief which could now be granted would be to restrain production. In no event can production be properly restrained, that is in toto, until Sartain has obtained the amount of oil he is legally entitled to. What measures of relief will then be open to appellant it is not necessary to enquire into. The

Steel Strike in the Oil Industry

WE have observed some perturbation among manufacturers and oil men as to the effect of the proposed steel strike on delivery of oil country equipment.

There are some who feel that the radicals have sufficient strength to go ahead and force a strike toward the close of summer, in which event deliveries might be disturbed, although the steel companies have stated flatly that they expect to fight the strike with every resource they have.

On the other hand, there are some observers whose political astuteness cannot be questioned, who say that President Roosevelt and Secretary Perkins will not permit the tying up of industry with a strike before the next election.

There seems to be a disposition on the part of some manufacturers, however, to protect themselves with additional stocks.

We believe, however, that the purchasing department of an oil company might do well to protect itself against the possibility that deliveries might be affected during the late fall and winter.

subject is discussed in Brown v. Humble, and in the recent Magnolia Petroleum Company v. Blankenship. What appellant's ultimate rights may be, and whether they can properly be asserted in the present suit, we do not decide. We only hold that in the present state of the instant suit, appellant is not entitled to the sought injunction relief, and the trial court entered the proper order."

LAND AUCTION

University accepts bids on 52 West Texas tracts

AUSTIN.

THE first auction of oil and gas leases in Texas was held last week by the university lease board when it offered for lease more than 12,000 acres of land in Ector and Crane, Andrews, Upton and Ward Counties. The offering was in 76 tracts of approximately one-fourth of a section each, and bids were accepted on 52 of these tracts.

The state realized more than $300,000 in cash and bonuses in the 8300 acres upon which bids were accepted, and board members estimated that this was about twice the price obtained through sealed bids by which lands have been leased in the past.

The university imported Colonel E. Walters of Skedee, Oklahoma, a veteran of the Indian land auctions in the old territory.

Bidding was spirited, and some leases brought as high as $300 an acre. The state obtained 50 cents annual rental and ⅛ royalty on each tract. Bidders were required to pay the bonuses and the first year's rental in cash at the close of the sale.

Further auctions will be held soon.

Code Conference

FEDERAL TRADE BOARD GETS FORMAL APPLICATION

WASHINGTON, D. C.

FORMAL application for a conference to develop trade practice rules for the petroleum industry east of the Rocky Mountains has been filed with the Federal Trade Commission by the National Committee for the Petroleum Industry, of which C. E. Arnott of New York, is chairman, it was announced by the commission July 22.

In a letter to the commission, the committee asserted that the conference was desired for the purpose of developing rules which would be submitted to all branches of the oil marketing industry other than production.

Inasmuch as the oil marketing groups held a trade practice conference in 1929 and developed a code which is still in effect, the proposed new rules would be merely in the nature of a substitution for those now operative, it was said.

The national committee informed the commission that those branches of the industry interested in the conference represent an investment of approximately $12,000,000,000 and employ about 1,000,000 persons, and that sales in 1935 included 434,897,000 barrels of gasoline, 47,652,000 barrels of kerosene, 366,514,000 barrels of gas oil and fuel oil and 19,598,000 barrels of lubricants.

In the same year, it was said, production included 998,942,000 barrels of crude oil, 457,692,000 barrels of gasoline, 55,813,000 barrels of kerosene, 355,125,000 barrels of gas oil and fuel oil and 27,771,000 barrels of lubricants.

The board of directors of the American Petroleum Institute at a recent special meeting recommended submission to the Federal Trade Commission of the "proposed code of rules of fair trade practices."

A resolution passed by the board declared its strong belief in free competition in industry and in ethical marketing practices. It recommended adoption of voluntary rules to achieve these ends through the trade conference system of the Federal Trade Commission in conformity with law.

The board also recommended that members of the industry participate constructively in the Federal Trade Commission's trade practice conference when it is held.

The text of the resolution adopted at the meeting follows:

(1) The board of directors of the American Petroleum Institute strongly believes that there should be free competition in industry. It further believes in ethical marketing practices and that voluntary rules should be developed, under the Trade Practice Conference system of the Federal Trade Commission for the conduct of business, which are in conformity with law.

(2) This board recognizes that adherence by a practically unanimous industry, in good faith, is essential to the success of any code of fair marketing practices.

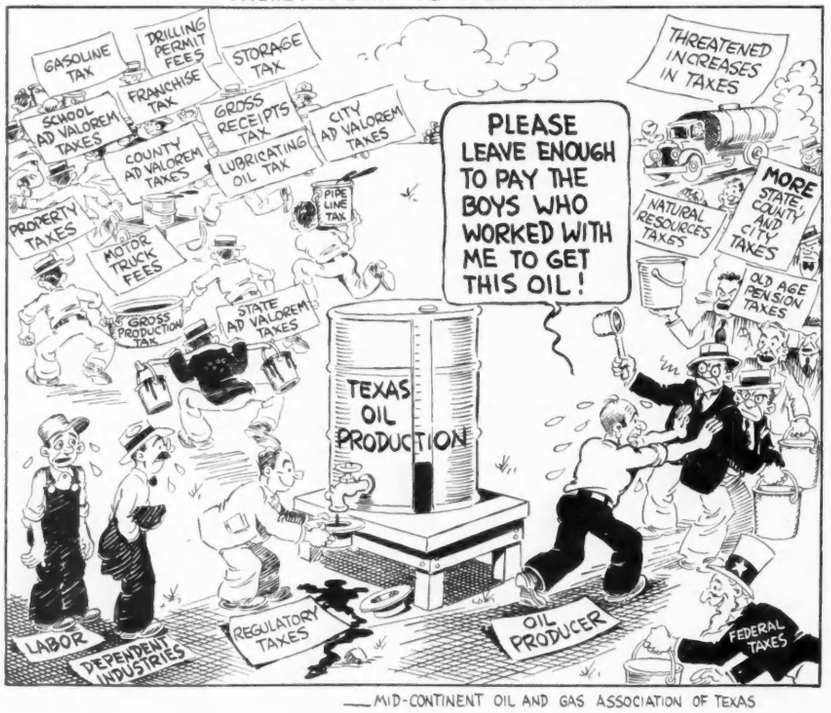
(3) For many months individuals and groups in the marketing of petroleum products have been engaged in an effort to secure the consensus of opinion upon certain rules of fair trade practices. Since February 4, 1936, representative conferences of those engaged in refining and marketing petroleum products were held in Chicago and a proposed code of rules of fair trade practices was adopted on June 23, 1936. This draft was circulated throughout the refining and marketing branches of the industry and was discussed in meetings in every state east of the Rocky Mountains.

(4) It is reported to this board that there is a substantial unanimity of opinion in the industry that this code of fair trade practices should be submitted to the Federal Trade Commission and, if approved by it, that it should be adopted.

Therefore, be it resolved that this board recommends the submission of this code of fair trade practices to the Federal Trade Commission in the manner provided for in the resolution adopted by the Chicago conference.

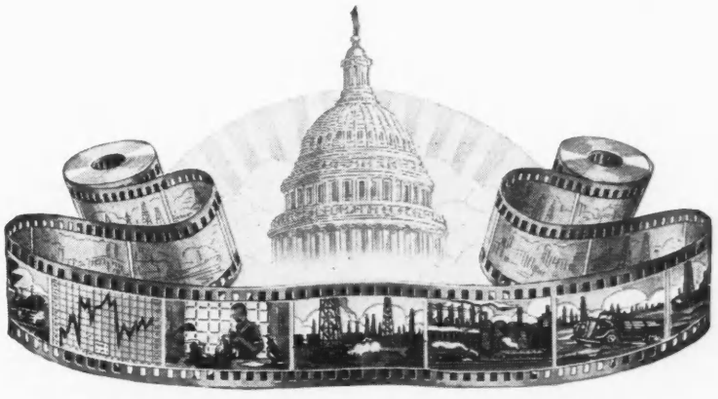
This board also recommends that the industry carefully study rules and constructively participate in the Federal Trade Commission Trade Practice Conference when held.

THERE'S A LIMIT TO EVERYTHING!



—MID-CONTINENT OIL AND GAS ASSOCIATION OF TEXAS

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by L. J. LOGAN, Associate Editor

SOMEWHAT more than one half of the year having elapsed, considerable thought is being given currently to the subject of crude oil reserves. It has become customary for some companies and persons in the industry to take inventory at mid-year to see if the nation has added as much new oil to the known reserves as it has taken from the ground during the half year.

Finding More Oil Than Producing

It appears that in the first half of 1936 considerably more new oil was found than was produced. During the period, about 525,000,000 barrels of crude oil was taken from wells in all the states of the United States. Meanwhile, approximately that much recoverable new oil was found in Texas alone. In other words, the nation's draught on its reserves was almost wholly compensated by the building up of new supplies that took place in Texas.

But in addition, exploration was not by any means fruitless in other states. Outside of Texas, sizeable additions to reserves were made, and those additions represented, under the circumstances, net additions to the nation's reserves. They aggregated at least several hundred million barrels.

California Has New Fields

After several years of famine in oil discoveries, California this year has added considerably to its known reserves. Three important new fields were discovered during the first half of the year. One of them, Old River field, Kern County, producing from below 7800 feet, rates as a major field of especially promising potentialities, being probably the most important California discovery since Kettleman Hills became a field in 1928.

This year has brought important additions to known reserves also in Oklahoma, New Mexico, and Kansas, through opening of new fields, extensions of established fields, and finding of new productive horizons in the existing fields. Louisiana also has furnished some new oil this year, although Rodessa's oil production and some of the other newer fields of North and South Louisiana rated originally as 1935 discoveries.

New Reserves Found in Texas

The Texas discoveries of the first half of 1936, aggregating about a half billion barrels, included new fields, extensions of older fields, and new productive sands. About half the total new oil was supplied by the eastern section of the state, largely through discovery of the Talco field and extension of Rodessa production considerably into Texas. The Texas Gulf Coast and Southwest Texas each supplied, meanwhile, around 100,000,000 barrels of new oil, and West Texas furnished about half that amount. Practically no new oil was found during the period in the other districts of the state, including North Texas, West Central Texas, the Texas Panhandle, and the East Texas field.

Nevertheless, the 500,000,000 barrels of discoveries that were made in Texas substantially exceeded the 200,000,000 barrels taken in the meantime from Texas wells. In fact, as pointed out above, the half billion barrels of new oil found in Texas about equaled the amount taken from all United States wells during the six months.

Some Say Oil Shortage Unlikely

The results in the initial half of 1936, like those in 1935, tend to support those optimistic souls who laugh at fears of a possible future shortage of oil. Those cheerful ones say that immense quantities of oil lie undiscovered beneath the numerous promising areas of the various oil producing states. Those accumulations will be found, more or less easily, when they are needed, it is contended. Some of them are not especially deep, and more intensive drilling will uncover them. Some are deep or ultra-deep, from the present standpoint, but can be discovered rather easily, as evidenced by the great strides already made in deep drilling.

Geophysics is greatly facilitating the finding of deep structures, and modern drilling methods and

equipment have made it possible to set the world's record in oil well drilling at 12,786 feet. It probably will not be more than a few years, at the longest, until a well goes to 15,000 feet. In fact, it is quite possible that the near future may bring actual production from between 10,000 and 15,000 feet, particularly in California or on the Louisiana-Texas Gulf Coast. Many of the important discoveries of recent years have been relatively deep fields.

Discoveries Declined After East Texas

The latest period of serious concern over crude oil reserves occurred in the several years following the discovery of East Texas, in the fall of 1930. That big field, originally rated as a two billion barrel discovery, but subsequently classed even better, gave the nation's reserves a great boost. A year later, late in 1931, another remarkable field, Conroe, was found, adding another half billion barrels to the nation's reserves.

But then ensued three very lean years in oil exploration. Discoveries were at a low ebb in 1932, 1933, and 1934. In that period two dozen or so new fields, mostly in Texas and Louisiana, were found; but only a few of them proved definitely important.

It was in the latter part of that three-year period that considerable anxiety arose over the protracted scarcity of oil field discoveries. Companies increased their geological, geophysical, and leasing activities and expanded drilling. They became seriously concerned over their future supplies of crude.

In 1935 the search for new oil was further intensified. Drilling was further increased. And the industry began getting results. Important new fields were found in Texas, New Mexico, Oklahoma, Kansas, Louisiana. Discoveries were brought back more in line with the drains that were being made on the established reserves. The Rodessa field alone, proved for oil in the summer of 1935, represented a substantial addition of new oil. In 1936, drilling has reached still greater proportions; and as pointed out above, the industry is continuing to be rewarded with important discoveries.

Anxieties Over Reserves Felt

In retrospection, it is quite understandable that there were some worries over a possible oil shortage, during that recent period. The scarcity of discoveries occurred despite advanced exploration methods. It was pointed out that the Eastern States, once the source of virtually all the nation's oil, had had no outstanding new fields for 15 years. It was asserted that the several currently leading producing states would have to be depended upon for most of the future production, and that each of those states already had been extensively explored, with each new field lessening the chances for future discoveries.

Drilling Volume Affects Discoveries

Upon further analyzing that recent three years' dearth of oil field discoveries, however, and upon considering the subsequent results, it is indicated that the scarcity of discoveries during the mentioned three years quite likely may have been due to subnormal volumes of drilling. In 1931, 1932, and 1933, drilling in the United States was not much more than 50 percent of normal, and in 1934 it still was sub-normal, in comparison with pre-depression years. Before the depression, the industry had been drilling more than 20,000 wells annually. In 1931 the total slumped to 11,716 wells, while completions numbered 14,290 in 1932, a depression minimum of 11,700 in 1933, and 17,508 in 1934. It was not until 1935 that well completions again totaled more than 20,000. As pointed out above, it was not until 1935, also, that discoveries of new oil became more normal. The discoveries and drilling activity followed similar trends.

Record Demand Easily Fulfilled

And so, the prophets of a coming oil shortage are without as much honor as formerly, and the top place is held again by the optimists who think the oil industry of the United States can fulfill the nation's requirements indefinitely into the future.

At any rate, the facts are upholding this latter group. The nation's requirements of petroleum have been running this year at all-time peak proportions. Yet the industry easily has been keeping abreast of this unprecedented test of its ability to supply the oil. Like the demand, crude production also has been pushed to unprecedented levels. And even so, the industry could have produced much more oil than it did. In fact, there has been some difficulty in holding the crude output down, within the market requirements.

Hunting Grounds in Numerous States

It must be conceded, of course, that the years ahead will test the ingenuity of the seekers for new oil reserves, as no let-down in demand for oil is in prospect. Instead, the economists look ahead and foresee even greater consumption in the future.

It is quite pertinent, therefore, to ask: "Where is all the new oil coming from, for meeting this large and growing consumption?"

The answer is that the best possibilities lie in the states that currently are leading in crude production, despite the fact they already have been rather extensively tested. Those states include Texas, Oklahoma, Kansas, New Mexico, Louisiana, California, Arkansas, the Rocky Mountain States, Michigan. Within all those states, geologists, geophysicists, and drilling crews can keep busy a long time. And if history repeats itself, those states will yield many new fields. For repeatedly states or districts have had famines in oil discoveries, only to yield rich fields subsequently.

The Gulf Coast, for example, was regarded 15 years ago as having furnished almost its last new oil field. Yet it subsequently became the scene of many new fields and still is a favored hunting ground.

Similarly, it seems possible that there may come a great revival in California discoveries, following the recent lean years. The recent discovery in Kern County has kindled hope for many new California fields. Located within a great valley between two mountain ranges, the deep field was discovered by seismograph. There are hopes that many other fields may be found, similarly, in the same broad valley that lies between the Coast range on the west and the Sierras on the east. Around the edges of that valley numerous fields already have been developed, including Coalinga, Midway-Sunset, and others on the west; Wheeler Ridge on the south; and Mountain View, Kern River, and others on the east. Now the hopes are directed into the valley, within an area roughly 50 miles wide, from east to west, and 200 miles long, from south to north.

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The satisfactory field performance which Moore derricks and rig equipment have given over a long period of years is direct evidence of correct design and manufacturing excellence.

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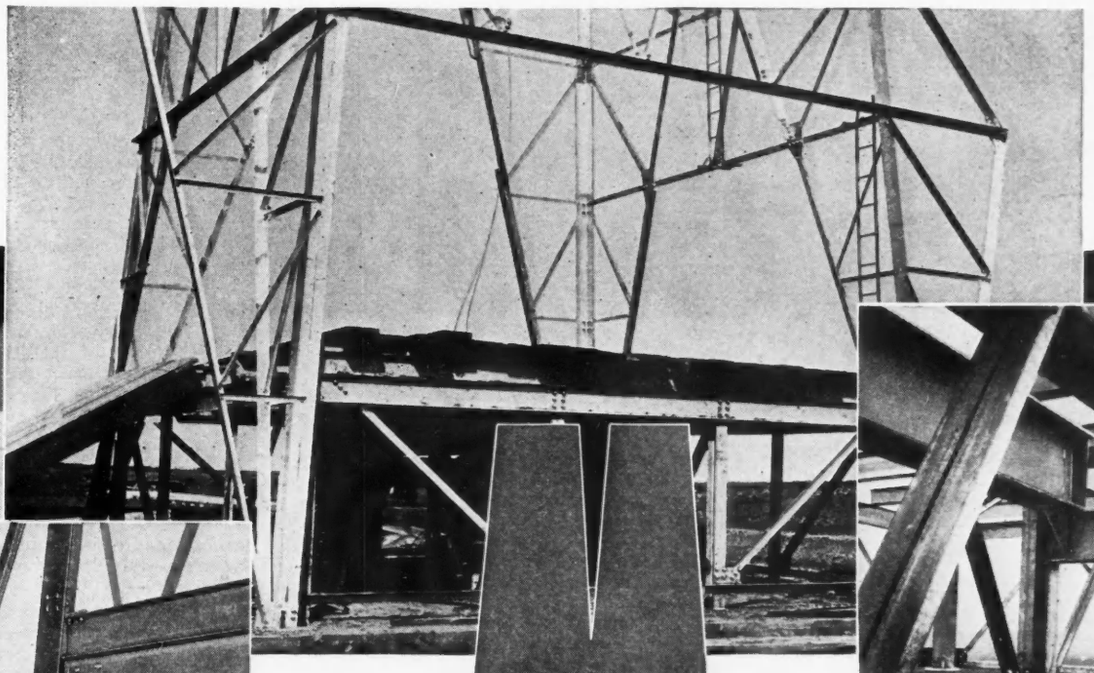

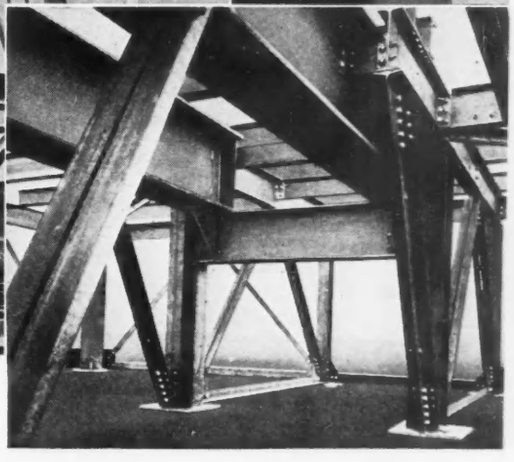

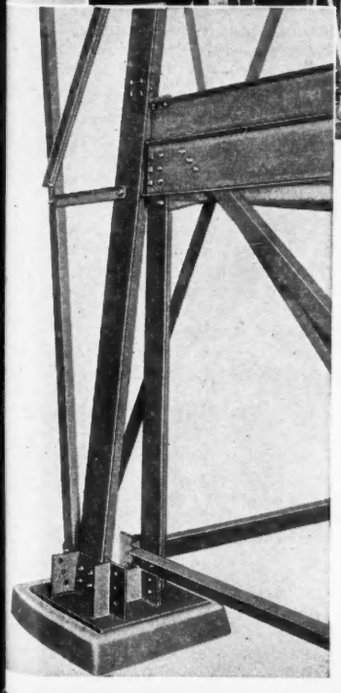

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MEN IN THE INDUSTRY'S NEWS

ROBERT S. MAESTRI, commissioner of conservation for Louisiana and staunch supporter of the late Huey P. Long, appears likely to succeed T. Semmes Walmsley as mayor of New Orleans as he was recently certified as democratic nominee of Orleans Parish. No opponent has announced for the office.

W. A. CLARK, formerly a consulting geologist, Houston, is associated with Turman Oil Company, subsidary of Middle States Petroleum Corporation, as division geologist in the Gulf Coast.

H. LANGSPECHT, chief scout in the Tulsa office of Shell Petroleum Corporation, is making a 10-day business trip to Amarillo, Texas.

FRED W. PETERS, controller of the company for the past four years, has been appointed secretary-treasurer of Oklahoma Natural Gas Company, succeeding John Mitchell, resigned.

O. A. GRIFFIN, Humble Oil & Refining Company chief clerk in charge of the Breckenridge district office, has been transferred to the Heyser district as district chief clerk and warehouseman.

C. A. BOYNTON, connected with affiliates of Socony-Vacuum Oil Company for many years in sales and sales promotion work, recently was appointed district manager in Arizona for General Petroleum Corporation.

R. J. SULLIVAN, Humble Oil & Refining Company engineer in the gas department, has been transferred to the East Texas division as gas plant superintendent in charge of the London and Kilgore gasoline plants.

SAMUEL R. DYE, for 25 years factory representative and sales manager of John A. Roebling Sons, Inc., in the Mid-Continent area, died at Tulsa July 19 at the age of 55 years.

S. B. SMITH of Pioneer Drilling Company is convalescing at a hospital in Tulsa, after undergoing a major operation.

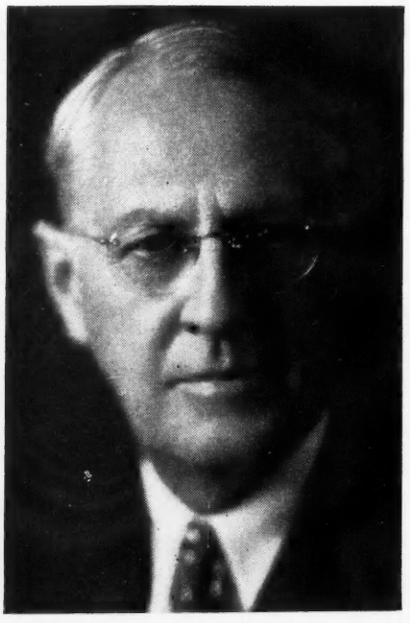
J. H. GALLOWAY, Humble Oil & Refining Company district petroleum engineer, West Beaumont district, has been transferred to the Taft district in the San Antonio division.

A. L. SNELSON, in charge of materials in the Mid-Continent area for Atlantic Oil Producing Company, has been transferred to the company's tax department at Dallas.

J. W. WINFREY, Humble Oil & Refining Company petroleum engineer in the Gulf Coast division, has been transferred to the West Beaumont district as district petroleum engineer.

JOHN H. KANE HAS SPENT HIS ENTIRE BUSINESS CAREER IN CLOSE ASSOCIATION WITH THE OIL INDUSTRY

» WAS BORN ON AN OIL FARM NEAR WARREN, PENNSYLVANIA «



—Blank & Stoller.

JOHN H. KANE

IT may properly be stated that John H. Kane grew up in the oil business, for he was born on an oil farm near Fagundus, Warren County, Pennsylvania. This was on November 12, 1874. Today he is executive vice president and general counsel of Phillips Petroleum Company, Bartlesville, Oklahoma, as well as a director and member of the executive committee of the company.

Kane received his A.B. degree from the University of Kansas in 1899, and one year later obtained the degree of LL.B. After graduation he practiced law in Kansas City, Missouri. But only for a few years, as 1904 found him in Bartlesville, then in Indian Territory. By 1905, he was attorney for Stubbs & Low, independent operators, and immediately thereafter became an independent operator himself although continuing general law practice. The following years found him organizing and serving as president of a number of small successful oil companies that operated principally in the days of early development in Washington County, northeastern Oklahoma. Among these companies were Brighton Oil & Gas Company, Dover Oil Company and New Haven Oil Company. During this time he was also active in oil and gas law practice, serving prominent operators in the early days of Oklahoma development, such as T. N. Barnsdall, John H. Markham, Jr., and the Henry L. Doherty interests.

At the time of the organization of Phillips Petroleum Company in 1917, Kane was attorney for the Phillips interests. Shortly thereafter he was engaged exclusively as general counsel for the company. He was elected to the board of directors in 1918, and has been vice president since 1920. He served as president of the Oklahoma State Bar Association in 1929, and was instrumental during his term of office in obtaining the passage of the Oklahoma State Bar Act, incorporating the Bar of the State. Kane is an active worker in local affairs of his community, being a member of several civic bodies.

FRANK BASS, Humble Oil & Refining Company district superintendent, Thompsons district, has been transferred to the Heyser district in Texas.

R. T. LYONS, vice president in charge of land, scouting and geology, of Skelly Oil Company, in company with A. L. Cashman, head of the land department, and J. Morero, chief geologist, recently completed an extensive inspection trip through Oklahoma and Kansas.

E. J. GROMAN, vice president and general manager of Twin State Oil Company, with Guy Campbell of the land department of the same company, made a business trip to Hobbs, New Mexico, recently.

H. D. EASTON, JR., Shreveport geologist and petroleum engineer, will attend a reserve officers training camp at Fort Sam Houston, Texas, August 9-22. He is a first lieutenant in the field artillery section of the army organized reserves.

TOM BOUNDS, Humble Oil & Refining Company assistant division superintendent in the East Texas division, has been transferred to the Thompsons district as district superintendent, replacing Frank Bass.

ROSCOE G. AYERS, division engineer for National Supply Company, Tulsa, recently was elected chairman of the Mid-Continent section of the American Society of Mechanical Engineers.

John H. Keyes, chief engineer, Shaffer Specialty Company, Tulsa, was elected vice chairman.

C. H. Keplinger, Shell Petroleum Corporation, Tulsa, the new treasurer, is a winner of the A.S.M.E. student scholarship for the best technical paper delivered by any student in the northwest.

Dr. Emory Kemler, Gulf Oil Corporation, Tulsa, the secretary, served as pro-

1,000 EXTRA BBLS. OF OIL FOR $3.15!

WHEN a well comes in a pumper it pays to use 'Incor' concrete. Example: Frances Oil Company's Scroggin No. 4, near Kilgore, Texas, where National Supply Construction Co. installed pumping unit (above). 'Incor' was placed Friday noon; well was on the pump Sunday noon. Foreman Inman, who supervised the job, says 'Incor' brought this 100-barrel well into production 10 to 12 days sooner than possible with ordinary Portland cement. It cost $3.15 more to use 'Incor'*—but it meant real money—1000 or 1200 extra barrels of oil. Typical of many oil-field advantages of this better Portland cement. Made and sold by producers of Lone Star Cement, subsidiaries of International Cement Corporation, New York; also sold by other leading cement manufacturers.

*Reg. U. S. Pat. Off.

'INCOR' 24-Hour Cement

fessor of engineering at the University of Pittsburgh, and was assistant to R. J. S. Pigott, Gulf Research Company, Pittsburgh.

Other officers of the Mid-Continent section of A.S.M.E. are vice chairman of Oklahoma, W. H. Stueve, Oklahoma Gas & Electric Company, Oklahoma City; vice chairman of Arkansas, Professor L. C. Price, University of Arkansas, Fayetteville; vice chairman of Louisiana, Burnard Oakland, manager La.-Del. Oil Properties, Inc.; and vice chairman of Kansas, Professor Albert J. Mack, Kansas State College, Manhattan.

SID MOOR, Humble Oil & Refining Company assistant division superintendent in the Gulf Coast division, has been transferred to the East Texas division, replacing Tom Bounds.

THEODORE C. PETERS and Benton S. Brooks, Tulsa, paleontologists with Shell Petroleum Corporation, have been transferred to Wichita, Kansas, to build a new laboratory at the company's district geological office.

W. J. BROWN, Humble Oil & Refining Company district superintendent, West Beaumont district, has been transferred to the Gulf Coast division office as assistant division superintendent, replacing Sid Moor.

CHARLES H. KEEN of the Humble Oil & Refining Company, has been transferred from the Tomball district to the West Beaumont district, replacing W. J. Brown as district superintendent.

J. GARFIELD BUELL, independent producer and drilling contractor, who headed an inspection tour of Russia in 1931 heads a group of five Tulsa oil men who sailed from New York July 25 to visit Russian oil fields and refineries this summer and fall. Accompanying Buell will be J. F. Darby, president of the Darby Petroleum Corporation; Charles L. McMahon, president of C. L. McMahon, Incorporated, and Harry Stekoll, head of Harry Stekoll, Incorporated. E. H. Moore, head of E. H. Moore, Incorporated, who left Tulsa more than a fortnight ago on a European tour, will join the group in Berlin, from where they will proceed to Baku, one center of the Russian oil fields.

R. E. BRIDGES, Humble Oil & Refining Company division civil engineer, has been transferred from the North Texas division office to the Gulf Coast division as assistant division petroleum engineer.

HAROLD B. BOYD, chief scout, and Joe Simpkins, geophysical department, Dallas, and John T. Jones, land department, Oklahoma City, all employes of Magnolia Petroleum Company, departed July 17 on a vacation trip by auto to Florida, thence via the Atlantic Seaboard to the New England States.

J. I. COCHRAN, Humble Oil & Refining Company farm boss in the Gladewater district, has been transferred to the Talco district as assistant district superintendent.

MALCOLM E. WILSON, El Dorado, Arkansas, formerly vice president in charge of production for Lion Oil Refining Company, July 24 was elected vice president of General American Oil Company of Texas. He will move to Shreveport early in August.

TOM HILL, geologist and scout for Sun Oil Company, Dallas, has been transferred to Greenville to cover operations in 15 counties in North Texas between Talco and Gainesville.

W. T. GUENZEL, Humble Oil & Refining Company civil engineer, Houston, Texas, has been transferred to the North Texas division to replace R. E. Bridges as division civil engineer.

COLONEL H. B. FELL, executive vice president, and Russell B. Brown, general counsel, Independent Petroleum Association of America, were guest speakers July 17 at the second annual banquet of the Oil and Gas Association of Michigan held at the Midland country club.

WILLIAM A. CATHEY, 58, Houston patent attorney of the firm Hardway & Cathey, who had specialized in patents on oil field equipment for many years, died in a Houston hospital July 20. He was born in Tennessee in 1878 and came to Texas in 1886 and later was admitted to the bar in Texarkana. Formation of the firm Hardway & Cathey took place in Houston about 28 years ago. Survivors include Mrs. Cathey, two daughters, one grandchild, a sister and two brothers.

JOSEPH O. CLARK, 64, pioneer Oklahoma oil operator and president of the Royal Oil & Gas Corporation of Tulsa, died at Glen Campbell, Pennsylvania, July 21, after a lengthy illness. He is survived by Mrs. Clark and two sons, Aaron P., and J. O., Jr. Funeral services were held in Glen Campbell, Friday, July 24.

TULSA SHOW
Plans being laid for May, 1938

Tulsa.—The question of whether the Tenth International Petroleum Exposition should extend more than eight days is being studied by the executive committee and management of the show, it was announced following a meeting of the committee July 20. No decision has been made as yet.

General Manager W. B. Way said that the original request for the show to be held for two weeks came from several large oil companies. The companies feel that two weeks gives their men, who must come in shifts to see the exposition, more time to view and study the exhibits.

Way further stated that many of the exhibitors had expressed a desire to keep the show within the eight days, as they feel exhibiting is a strain on their men and that this period is sufficient for them to contact customers and prospects.

Questioned about the next exposition, Way said that no detail plans had been drawn, but that the executive committee in the Monday meeting had reiterated its decision that the tenth show be held in May, 1938, as announced before the close of the last exposition.

President W. G. Skelly said that plans for enlarging the scope and size of the exposition are now being worked out.

ACTIVITY PLANNED
Italians will speed up development in Iraq

Rumor crops out again that the Italians now have control of Mosul Oilfields, Ltd., and B. O. D., Ltd., holding concessions in northern Iraq, and that development work on those concessions will be speeded up with more intensive drilling immediately, due to Italy's need of crude oil for domestic consumption.

Another report, unverified, is that the Italians have worked out a method to pipe the heavy oil and that plans for construction of a pipe line from northern Iraq to the Mediterranean Sea call for start of construction in 1937.

Two tests in Abyssinia, one at Duncalia and one at Harrar, are drilling ahead under direction of Italy's Bureau of Oil Research. No showings have been encountered.

MAY BLEND GAS
Swiss commissions study alcohol mixture scheme

Advisability of enacting government regulations making it compulsory in Switzerland to mix gasoline with domestically-produced alcohol is being studied by two commissions in that country, a report from Zurich states. One commission is considering the technical side of the question while the other is studying the distribution problem.

It is estimated in Switzerland that through the use of domestic alcohol, imports of gasoline could be reduced appreciably.

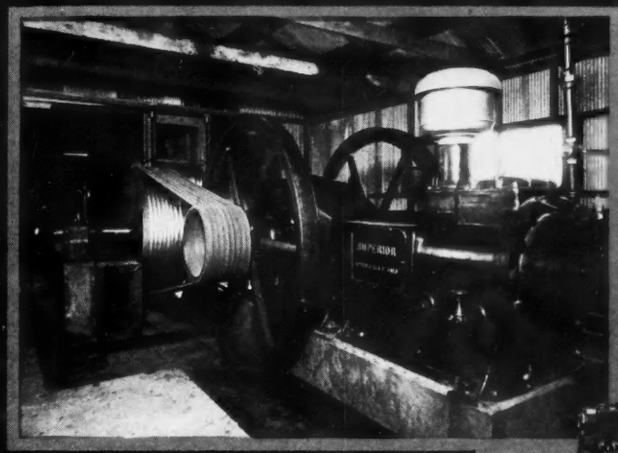
OKLAHOMA LINE

Tulsa.—Continental Oil Company is engaged in making a survey of right of way for an oil line proposed between the Jesse pool of Pontotoc County and the company's King 1, NE SW NE 26-1n-8e, Coal County wildcat that showed for 180 barrels of oil from 30 feet of sand at 800 feet. It has been reported that Continental Oil Company is to move in light equipment to develop the shallow production encountered in King 1.

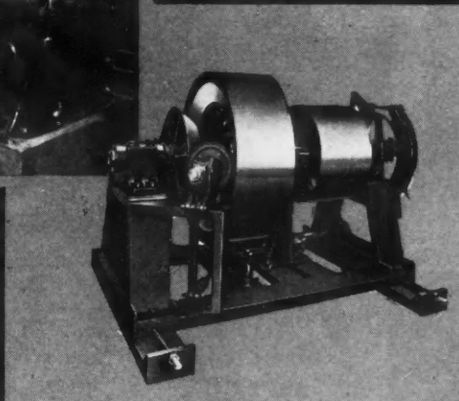
CONROE DEAL

Houston.— Mar-Tex Oil Company purchased the interest of D. D. Feldman, J. Feldman and M. Feldman in the Adeloil Company, Felson Oil Corporation, Adeltex Oil Company and the Feltex Oil Company, last week, it was announced by J. L. Thompson, Jr., president of the company. The above companies have a number of producing wells in the Conroe field, Montgomery County.

Superior TYPE "C" PUMPING ENGINE



For extra heavy pumping wells, the Superior Type C heavy duty horizontal convertible gas or oil engine with countershaft is the ideal combination.



This unit insures maximum power and speed range and lowest possible maintenance under the most severe pumping conditions. Vee belt drive reduces building costs.

Countershaft furnished for straight pumping, or with friction reverse (70 per cent faster reverse) for servicing.

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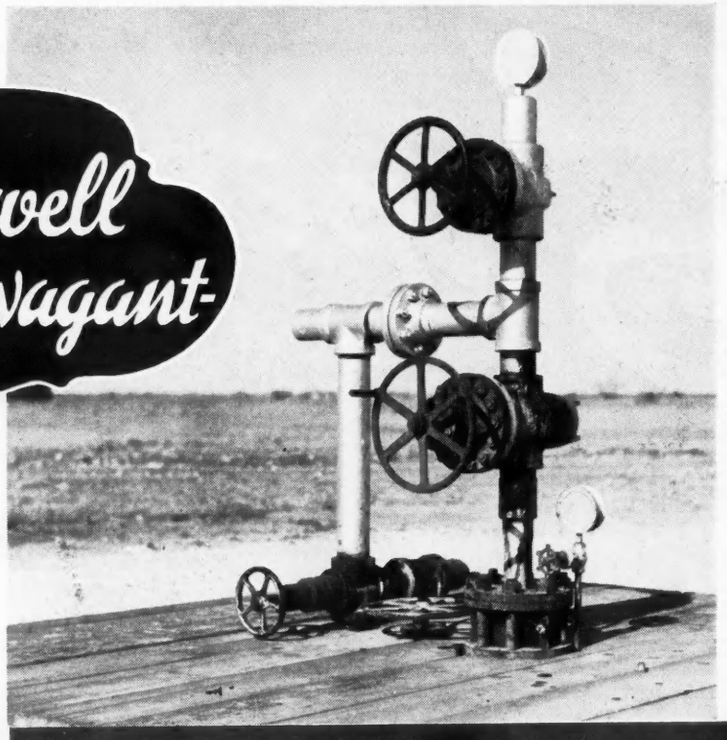
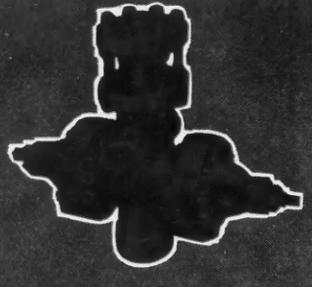
If this well gets extravagant-



. . it can be corrected WITHOUT KILLING!



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5. Eliminates oil string master gate.
6. Permits use of inexpensive Xmas tree.
7. Provides double seal around tubing.
8. Shuts casing in without parting tubing.
9. Permits safe manipulation or pulling of tubing without killing well.
10. Invaluable when drilling-in under pressure.

Because it was completed with a Cameron Master Control Tubing Head, the gas-oil ratio of this well may be corrected, without killing, at any time it becomes extravagant. The work may be done with complete safety, and at low cost.

This freedom to manipulate tubing to obtain the ideal producing level and the most economical gas-oil ratio, results from the construction of the Cameron Master Control Tubing Head.

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UNIQUE PLAN SOLVES THE PROBLEM OF

Town-Lot Development

IN THE HAENIGSEN-NIENHAGEN FIELD

By WALTER SACK

WHERE oil leases are taken on groups of narrow lots under a contract that each individual lot shall be developed so that each owner may receive the benefit of royalties, on a structure of a type that prohibits drilling the holes so close that each lot could have a well, a problem is presented.

G. E. Oil Company, Hannover, Germany, did solve such problem. This company, being the pioneer in Haenigsen-Nienhagen field, has the largest acreage under lease. More than 75 percent of its holdings, however, lie in the forest reserve and were obtained without binding agreements as to well spacing. This liberty allowed that company to space its holes in a manner that assured the best drainage of the structure and the longest life of the wells. The checkerboard system of prospecting was adopted, with the distances between holes measuring 120 feet. Only where extreme pressure was tapped were relief wells put down within the squares.

Royalties on the forest reserve leases were four percent of the total production, with an additional $75 damage compensation for each half acre of ground allowed per well. The same royalty scale and damage compensation was paid to owners of private ground outside the forest reserve boundaries; but in addition to this, the land owners demanded $8 per acre per year, to be paid until their ground was being developed.

Most privately owned ground in the district of Haenigsen-Nienhagen field is cut up into narrow lots, making it difficult to develop each lot under the systematic spacing of the holes as the average width of these lots is hardly 60 feet. Therefore, it often happened that in a row of drill holes running across a block, for economical reasons some of the lots had to be passed up. This left the owners of the undeveloped lots in such block without royalties; but in time, this led to the development of a "Share-All" plan.

"Share-All" Plan Fails

With the assistance of the operators, the individual owners of each block of lots leased signed agreements to share equally the royalties of gross production of such blocks as were developed. If several lots in a block had to be passed up, the owners thereof would not be left out on the royalties, as was the case before. The economy of this plan lay in the operator's saving of the $8 per acre per year on the undeveloped lots in a developed block. The $75 damage compensation went undivided to those on whose lot a well was drilled.

This "Share-All" plan worked satisfactorily until about 1924, when many lot owners refused to lease their ground under it. They stubbornly insisted that the lessee agree to drill each lot, and demanded undivided royalties from their ground; and those whose ground lay in the general course of the structure even requested in their contracts a specific date marked on which drilling on the lot in question must begin.

Some operators, then, selected and leased only such lots in the course of their structure as permitted economical well spacing and ignored the others. No local concern ever took up the vacant leases in a block out of which another operator had selected his lots. An outside concern, however, took up some of these culls, and in one instance put down a hole between two wells of another company, thus, shortening the life of the well on either side and assuring an inefficient and uneconomical drainage of acreage best adapted to two wells.

On account of the royalty question leasing became a problem. The proper solution, it seems, could have been found in buying the ground outright; but this is not easily done in a country where land is scarce and valued too high. (As far as is known, only one lot of about three-quarters of an acre was bought outright in the whole field.) But a solution was found after all without violating the additional clause in the new leasing contracts, assuring each lot owner development of his ground; and, the clever part of this, without altering the method of spacing the holes less than 120 feet.

Solution

The credit for the introduction of this new plan goes to G. E. Oil Company. In 1924, this company's development work expanded from the leases in the forest reserve into privately owned ground. The structure had forked like a giant Y, the branch leading into private ground being smaller, but good enough to follow up. As soon as this company recognized the general course of the smaller branch, it leased ground ahead and on either side of the possible trend.

The company, too, had to submit to the latest demands of lot owners; but since it agreed in the contracts to drill on each lot and develop each lot to the best of its ability, it met no trouble obtaining leases. Payments on these new leases were: four percent royalty per well, $75.00 damage compensation per half acre drilling ground, and $8.00 per acre per year until development of the lease.

It should be kept in mind that the usual drilling

clause which bound the lessee to put down at least one hole on each lot where oil was found in a block was changed by G. E. Oil Company in its new contracts: that on each lot shall be drilled, that each lot in such block shall be developed to the best of the lessee's ability, and that no lot be passed up in a course of producing wells on a block. On such agreements as that G. E. Oil Company based its new plan, or better, it seems, that out of their new plan evolved the slightly altered drilling clause in the new leasing contracts.

The first privately owned ground encountered by G. E. Oil Company in developing the smaller branch of the forked structure was a block of eight lots, each lot about 60 feet wide. The first step toward work on that lease was an exact survey of the boundaries between the lots. Boundaries ascertained, owners were called onto the ground to identify them and give a written acknowledgment thereto. After this, G. E. Oil Company revealed its plan: to drill half a hole on each of these eight lots by putting the first hole on the boundary between lot No. 1 and lot No. 2, the second hole on the boundary between lot No. 3 and lot No. 4, the third hole on the boundary between No. 5 and No. 6, and the fourth hole on the boundary between No. 7 and No. 8. (See drawing.)

Thus, four holes spaced 120 feet apart would develop these eight lots. In compliance with the agreements in the contracts, drill work would be done on each lot; and each lot would be developed to the best of the lessee's ability.

Great care was taken in spudding so that the boundaries cut each hole in the middle, leaving half of a hole on each lot. One-fourth of an acre was taken from each lot for drilling space, and each owner received half of the $75.00 damage compensation per hole.

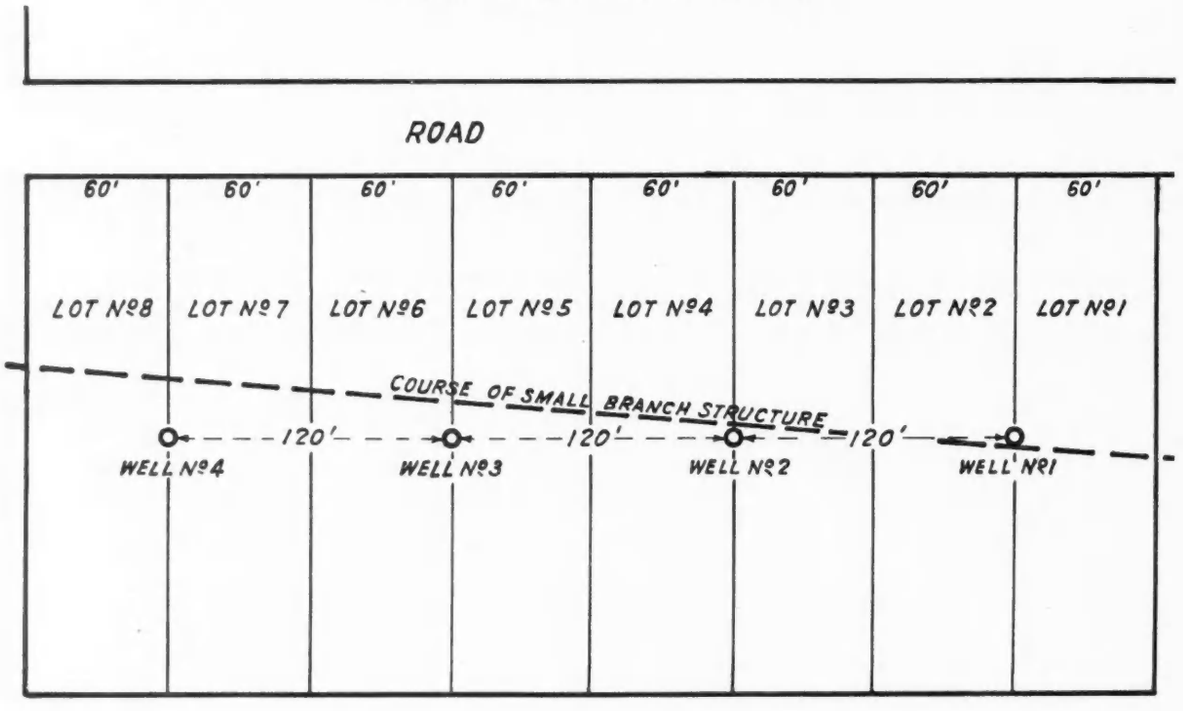
Lawsuit Avoided

The owners were very much surprised at this step, but nothing was said until the payments of the royalties began. Owners of lot No. 1 and lot No. 2 declared themselves in favor of the new plan, realizing that spacing the wells in this manner would assure a longer period of payments and that the plan was fairer than the "Share-All" plan used previously. But the rest of the lot owners in that block threatened to bring suit on the strength of the point that even though the holes were started on the boundaries, they were probably not, 2100 feet below the surface, bottomed on the boundaries; and, therefore, the royalty should go undivided to the owners in whose lot each well was bottomed.

However, the dissatisfied owners found out that they were about to take a foolish step, for they would, instead of suing the company, engage in a lawsuit among themselves, as the company had fulfilled its contract, had drilled on each lot and was paying the agreed royalty of four percent, but most likely cared little to whom.

After all, this plan overcame the problem described; and was at last accepted and approved by all small lot owners, and is now widely used on blocks of narrow lots throughout that field, to the satisfaction of landowner and operator.

Diagram of drilling location method used by G. E. Oil Company on town lots in the Haenigsen-Nienhagen oil field of Germany.



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Application of Directional Drilling

By DENIS S. SNEIGR

BECAUSE it is an economy factor from the standpoints of a time and money saver and an efficiency measure, directional drilling occupies a position of ever increasing importance in the oil industry today. Its uses range from merely sidetracking junk in the hole to the more spectacular application of extinguishing burning and cratered wells by drilling a relief well.

Undoubtedly the future will see an even more extensive application of controlled directional drilling to production practices. For example, in fields where the sand bodies are thin and steeply dipping, wells can be drilled at such an angle that hundreds of feet of perforated pipe are in contact with the sand. This practically amounts to laying a pipeline through the oil sand, but already this has been accomplished successfully in California.[1]

The sidetracking of junk in a hole is an important useage of directional drilling. In cases where a prolonged fishing job would be necessary to clear the hole, sidetracking will save time and consequently money for the operator. The usual practice in sidetracking is to survey the section of the hole containing the junk and set the whipstock to drill off in the opposite direction. If the hole is practically vertical, two whipstocks are set which approximately doubles the angle of deflection and insures the new hole from running back into the junk or having the junk fall in the sidetrack hole at a deeper depth.

The straightening of crooked holes probably is the best known application of directional drilling. By first surveying the hole and determining the direction of deviation, crooked holes may be straightened either by continuing to drill at a correct angle or by plugging back to the point of excessive deviation and sidetracking with a vertical hole. In these operations a number of special bits and deflecting tools are employed[2].

Another application of directional drilling is the case where it is desired to deflect the well across a fault. The difficulty or ease with which this operation is accomplished depends largely upon the angle at which the directed hole meets the fault. If the angle is small, the bit tends to slide along the fault plane. Use of a special bit can overcome this difficulty in most cases. However, if the hole is directed against the fault at right angles no trouble will be experienced.

On overhanging salt domes, wells can be drilled so as to completely miss the overhang on top of the dome and then be deflected into the oil zone. This method is faster and more economical than the old method of drilling through the overhang of cap rock and salt to get to the oil sand below. (Figure 1.)

In cases where wells have been drilled out on the flanks of a dome and after producing for a time have reached the marginal stage, a survey of the hole is first made and then a whipstock set. The new hole is drilled to bottom-up farther up structure and to escape the encroaching water.

The use of whipstocks to deflect new holes probably is the most accurate method yet developed. A case illustrating this point recently occurred in the Gulf Coast where it was found that it would be

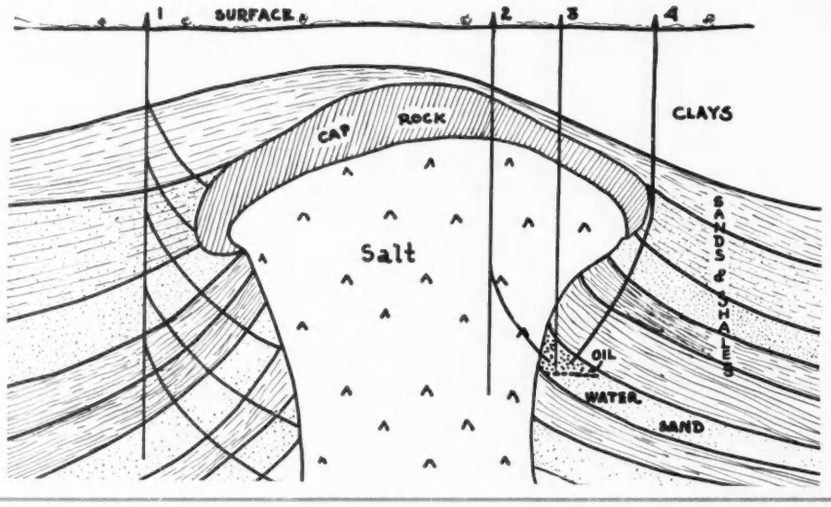
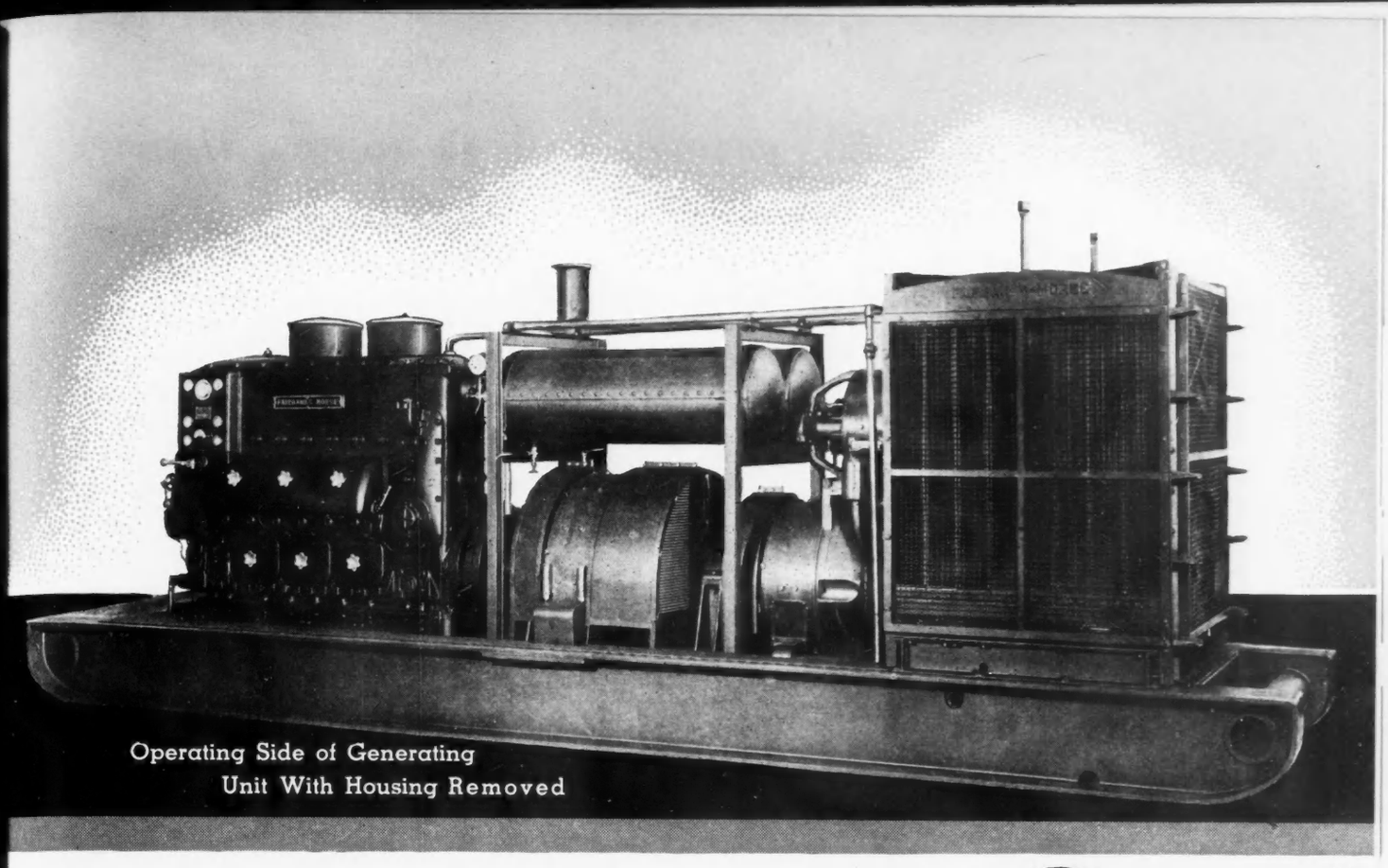


FIGURE 1

Showing how directional drilling can be used to contour a salt dome and drill to production under cap rock. Well No. 1 shows a series of sidetracked holes used to outline the dome. Well No. 2 was drilled into salt, plugged back and sidetracked into the oil sand. Well No. 3 is the old method of drilling through salt and cap rock to reach the oil sand. Well No. 4 missed the dome and was deflected under the overhang.



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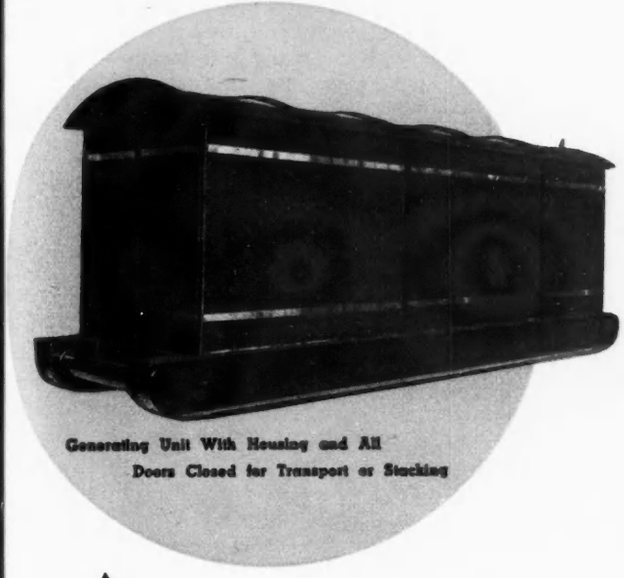

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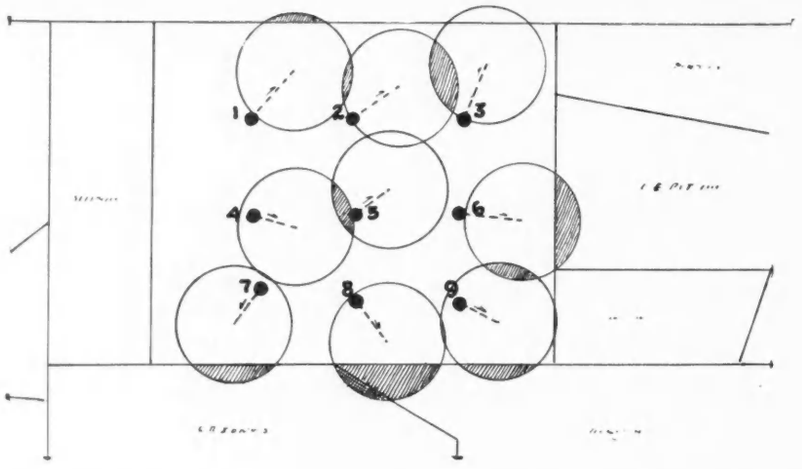

FIGURE 2
Improper drainage due to crooked holes.

—All illustrations courtesy Eastman Oil Well Survey Company.

necessary to mill out through casing. Accordingly a casing whipstock was set, the casing milled through, and the new hole started.

At this point, the whipstock in the hole jammed and was folded over so that it was impossible to remove it. The directional drilling company on the job plugged back up the hole above the first whipstock and set another to mill out in the same direction. This was accomplished and the second sidetrack hole run back into the first one below it.

The directional drilling jobs which best illustrate the extreme accuracy of directional drilling are the three cases within the past three years where relief wells have been drilled to kill cratered and burning wild wells. Two of these jobs were in Texas and the third in Roumania. On the two Texas jobs, the wild wells were quickly extinguished and the flow of gas stopped, but in the case of the Rumanian well it was discovered, after the relief well had been bottomed close to the original well, that the sand which had been thought to cause the cratering action was not doing so[3].

In the drilling of relief wells everything is planned in advance of the actual work. A study is made of the drilling log of the wild well, the strike and dip of the beds, the direction of the wind, and if available the survey of the wild well. If a directional survey of the cratered well is not available, the location of the bottom must be estimated. Past experience in the effect of structure upon deviation enables the operators to estimate the probable direction of deviation of the cratered well. As the relief well is drilled, its deviation is studied and corrections applied to the estimated objective.

Directional surveys are made of the relief well every hundred feet and an exact record kept of its course. Bit control and whipstock settings control the deviation. When the well is bottomed close to the bottom of the wild well, casing is set and blowout equipment installed. Thin mud is pumped into the relief well until circulation is established between the two holes. The thin mud is followed by a heavier mud. Pumping continues until the wild well is completely dead. After this, cement slurry is pumped in.

In the drilling of inaccessible offset locations, deflected and controlled drilling is used to great advantage. The Elwood and Huntington Beach fields in California are outstanding examples of the successful drilling of offset leases. At Huntington Beach, the wells are drilled from the mainland and curved out under the ocean. In the Elwood field, piers have been built and multiple drilling projects used to develop the subsea leases.

This method of developing inaccessible locations can be applied to townlot drilling as well as to ocean or bayou leases. With the recent leasing of state lands in the Gulf, this method of development no doubt will be followed.

In geological exploration work, controlled, deflected drilling can serve the geologist well. Mining engineers have taken full advantage of this method of subsurface exploration in the past. In this case a vertical hole is drilled first and then plugged back at two or three points and controlled, deflected holes drilled off of it in different directions. In this way the same information may be gained that otherwise would require the drilling of three or four wells.

In this way, too, the limits of a salt dome may be outlined successfully. After the location of the dome is established through geophysical exploration, one well may be drilled on the flank of the dome. From this vertical hole a series of deflected and controlled holes may be drilled in the direction of the salt dome. Thus the dome can be accurately outlined at a great saving in time and money over the old method of drilling a series of wells along an axis across the dome. (Figure 1.)

The proper drainage of a lease depends not on the spacing of the wells at the surface but on the bottom-hole spacing. If drilling is not controlled, spaced wells on a lease are very apt to drift and instead of correctly draining the lease, there will be interference. Some of the territory will not be drained at all and some of it will be drained by two or more wells. (Figure 2.)

In such a case economic drainage is impossible. Also it would be impossible to correctly value such producing properties and to estimate the per acre yield and recovery.

During the past few years great strides have been made in the science of controlled, directional drilling. With the advent of new tools, which are now under construction, operations will be speeded up and an even greater saving in time and money obtained for operators. Doubtlessly, the future will witness an even wider application of this art to oil production. Especially is this true in arriving at better drainage of productive territory.

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[3] Eugene Guman, Control Gas Craters, The Oil Weekly, September 16, 1935.

COMPARISON OF OUTPUT AND INTAKE

Characteristics of Natural Gas Wells

IN THE TEXAS PANHANDLE FIELD

By M. A. SCHELLHARDT,
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PART II

THIS is the second of a series of articles based on field tests in the Texas Panhandle natural gas field that have been made by the United States Bureau of Mines. The articles are reprinted from the U. S. Bureau of Mines Report of Investigations 3303. A third installment of the series will appear in an early issue of this magazine.

THE description of individual tests and data, which was commenced in Part I of this series, will be continued. Wells A and B were included in the first part, and the other test wells will now be considered.

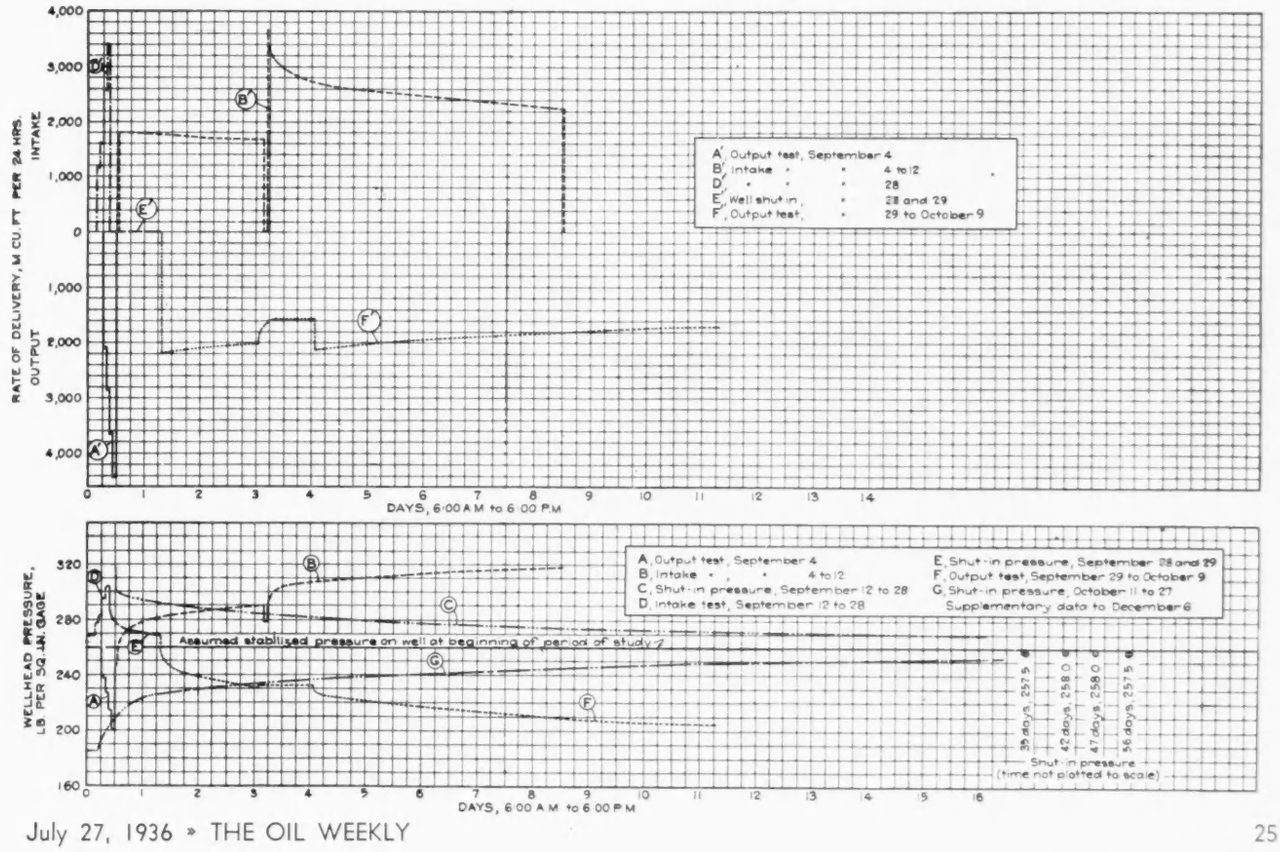
Well C

Well C in Gray County several miles south of Pampa, Texas, was plugged back to the gas horizon in 1928. Its initial open flow after the 8¼-inch casing was ripped at the gas horizon was reported as 18,000,000 cubic feet of gas per 24 hours.

An outflow test was made on well C September 4. Working pressures and delivery data based on stabilization periods of approximately 1½ hours were obtained under four operating conditions. The well had been closed in September 1, and the shut-in pressure gaged September 4, just before the flow test was begun was 260 pounds per square inch gage.

The stabilized shut-in pressure of well C was not determined after the outflow test, as an inflow test was begun approximately 25 minutes after the out-

FIGURE 2
Rates of gas deliveries and pressures observed during tests on Well C


RATE OF DELIVERY, M CU. FT. PER 24 HRS.
INTAKE
OUTPUT
4,000
3,000
2,000
1,000
0
1,000
2,000
3,000
4,000
DAYS, 6:00 A.M. to 6:00 P.M.
A' Output test, September 4
B' Intake " " 4 to 12
D' " " " 28
E' Well shut-in " 28 and 29
F' Output test, " 29 to October 9
WELLHEAD PRESSURE, LB. PER SQ. IN. GAGE
320
280
240
200
160
DAYS, 6:00 A.M. to 6:00 P.M.
A, Output test, September 4
B, Intake " " 4 to 12
C, Shut-in pressure, September 12 to 28
D, Intake test, September 12 to 28
E, Shut-in pressure, September 28 and 29
F, Output test, September 29 to October 9
G, Shut-in pressure, October 11 to 27
Supplementary data to December 6
Assumed stabilized pressure on well at beginning of period of study
35 days, 257.5 lb.
42 days, 258.0 lb.
47 days, 258.0 lb.
56 days, 257.5 lb.
Shut-in pressure
(time not plotted to scale)

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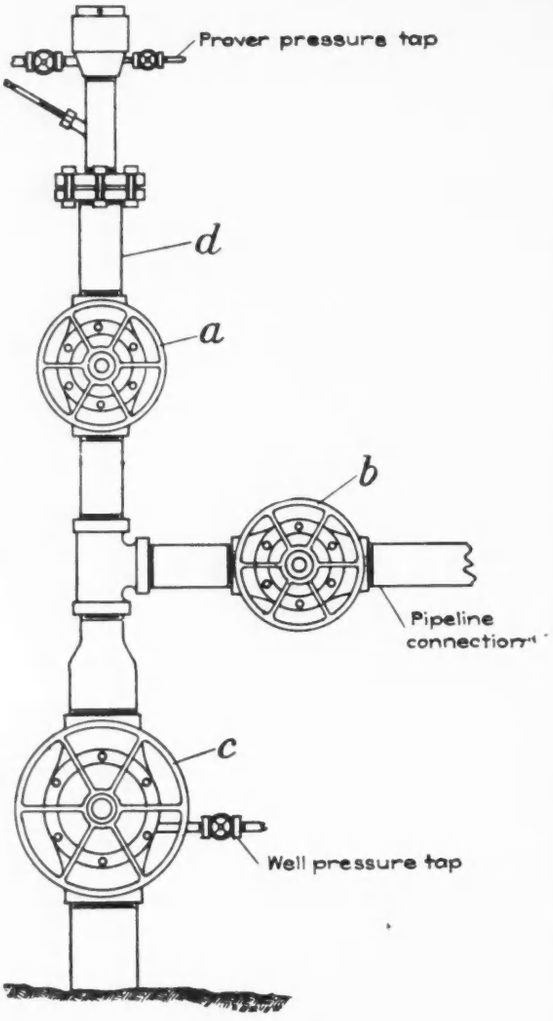

FIGURE 3
Wellhead fittings, Well D

flow test was completed. During this 25-minute interval the pressure on the well increased from 200 to approximately 247 pounds per square inch gage.

The working pressure and rate of delivery were observed after a stabilization period of approximately 1½ hours. Delivery of gas into the well was continued throughout the period September 4 to 12. The gas was delivered into well C under natural pressure from a well several miles west completed in the same horizon as the "pay" formation of well C. The well from which the gas was obtained was characterized by slow stabilization of pressure and flow conditions; as a result, the rate at which the supply of gas was available at constant pressure diminished slowly throughout the test.

The behavior of pressures and flow in well C represented a very slow type of stabilization. Even though the rate of flow of gas into the well was decreasing, the working pressure continued to increase during the period of the test. The initial rate of inflow of gas was approximately 1,800,000 cubic feet per 24 hours (September 4.) The rate at which gas was available diminished gradually during the ensuing period; on September 7 it was approximately 1,690,000 cubic feet per 24 hours. During this period the working pressure on well C increased from 270 to 291 pounds per square inch gage. The rate of delivery of gas into the well was increased September 7 to 3,100,000 cubic feet per 24 hours. Under this operating condition the supply of gas available diminished rather rapidly, and 5 days later (September 12) the rate of flow into well C had decreased to 2,235,000 cubic feet per 24 hours. Pressures and corresponding measurement data after stabilization periods of approximately 6 and 8 days, respectively, are shown in Table 1. Variations in the working pressure and in the rate of delivery of gas into the well during the period September 4 to 12 are shown, respectively, by lines *B* and *B'*, Figure 2.

The well was closed in at the end of the inflow test September 12, and the shut-in pressure on the well was gaged daily from September 12 to 28. The decrease of the shut-in pressure on the well from 318 pounds per square inch gage at the termination of the inflow test (September 12) to 268 pounds per square inch September 28 is shown by line *C*, Figure 2.

A second inflow test was made on well C September 28. During this test the data were observed after stabilization periods of approximately 1½ hours and included working pressures and corresponding measurement data obtained under four operating conditions. The calculations were based upon a shut-in pressure of 268 pounds per square inch obtained before the inflow test.

Well C was shut in September 28 after the inflow test, and the working pressure decreased from 305 pounds per square inch gage at the close of the inflow test to 269 pounds on the following day (September 29).

An outflow test lasting 12 days was begun September 29 to obtain outflow data based upon pressure and flow stabilization similar to the stabilization that existed during the inflow test made September 4 to 12. Working pressures and gas-delivery data were observed at intervals from September 29 to October 9. Variation of the working pressure and the rate of delivery during this period are shown, respectively, by *F* and *F'*, Figure 2. The test was continued until October 11, when the well was closed in. The rate of gas delivery from the well varied considerably from October 9 to 11 because of external influences, and the data obtained during this interval were of no value.

After the well was closed in on October 11 shut-in pressures gaged from October 12 to December 6 showed that the stabilized pressure on well C was 258 pounds per square inch gage from November 22 to 27. The behavior of the shut-in pressure on the well from October 11 to December 6 is shown by *G*, Figure 2.

Well D

The initial open flow of well D in the Shamrock field, Wheeler County, Texas, was reported to be 47,000,000 cubic feet of gas per 24 hours and the initial shut-in pressure, 400 pounds per square inch gauge.

The shut-in pressure observed on well D September 16, after it had been closed in for approximately one month, was 295 pounds per square inch gauge. It was reported that entrained material from the formation was produced with gas from several of the wells in the vicinity of well D. Therefore well D was open-flowed September 17 to insure that later

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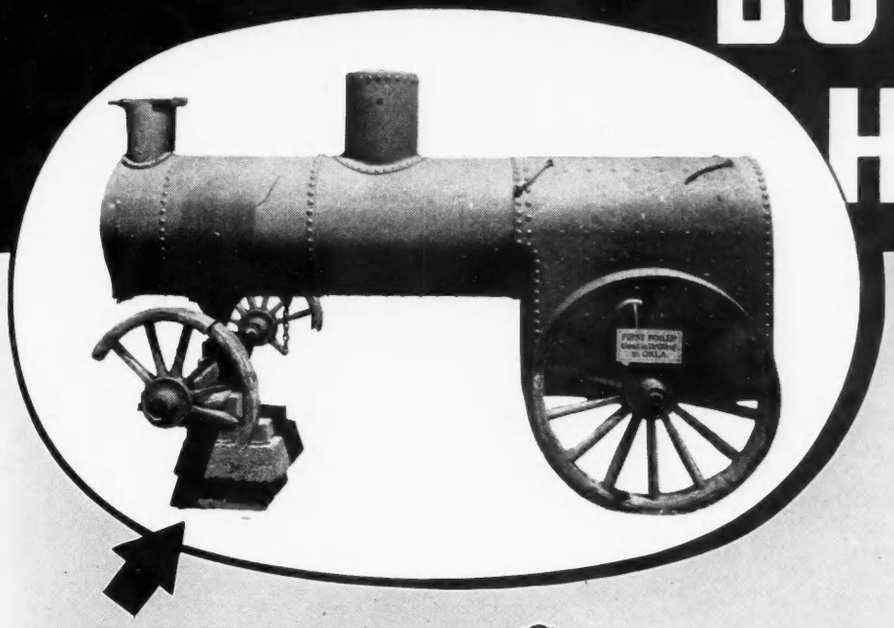

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This boiler was exhibited by the recent International Petroleum Exposition as the first boiler used in drilling in Oklahoma. This type boiler was in general use at Bartlesville, Chelsea, Red Fork and other early producing fields.

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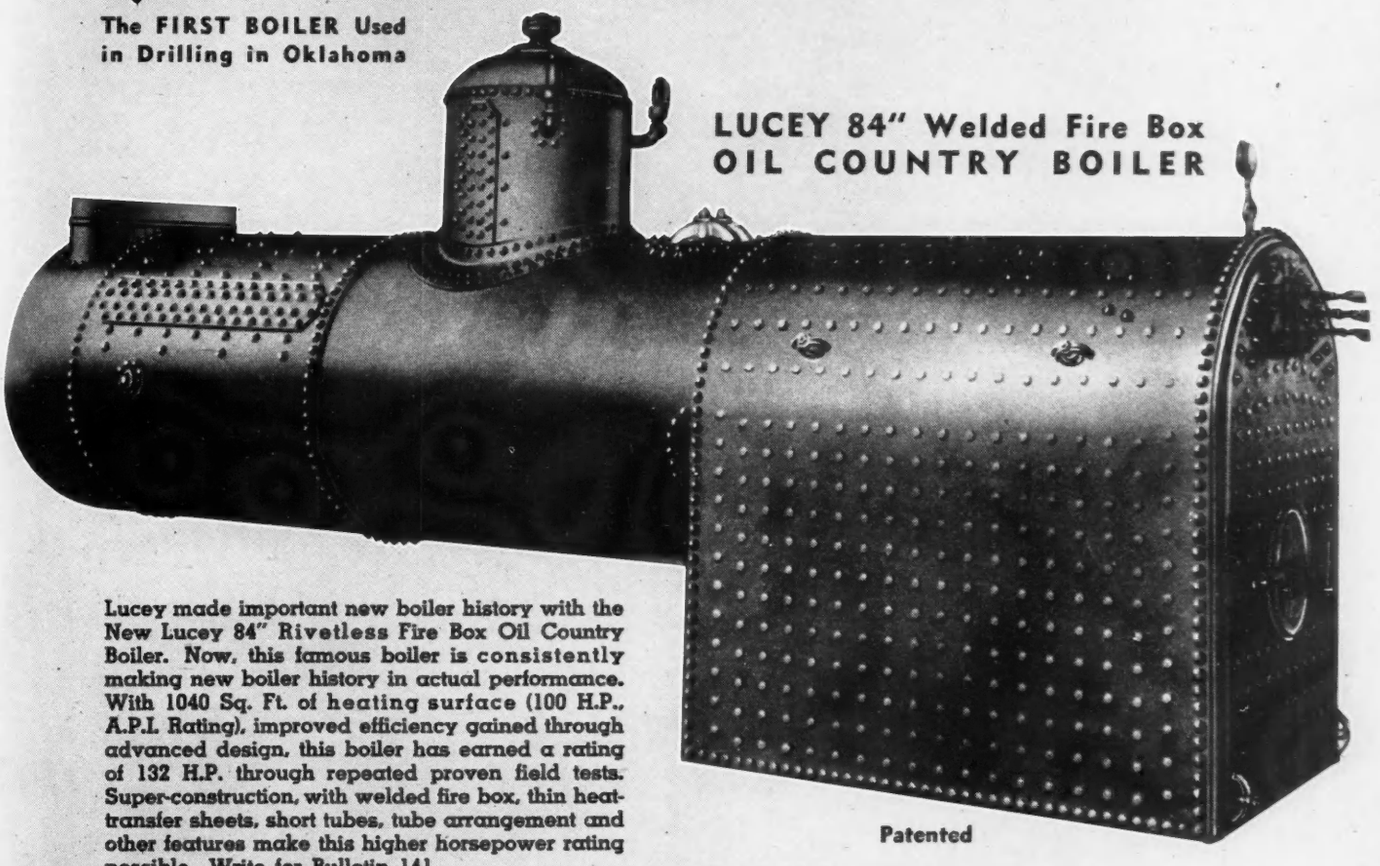

Lucey made important new boiler history with the New Lucey 84" Rivetless Fire Box Oil Country Boiler. Now, this famous boiler is consistently making new boiler history in actual performance. With 1040 Sq. Ft. of heating surface (100 H.P., A.P.I. Rating), improved efficiency gained through advanced design, this boiler has earned a rating of 132 H.P. through repeated proven field tests. Super-construction, with welded fire box, thin heat-transfer sheets, short tubes, tube arrangement and other features make this higher horsepower rating possible. Write for Bulletin 141.

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Chattanooga, Tenn.

TABLE 3

Behavior of shut-in pressure of gas wells surrounding well D during outflow and inflow tests of well D

DATE[1]	Pressure on Well D, Pounds per Square Inch Gage	SHUT-IN PRESSURE, POUNDS PER SQUARE INCH GAGE		
		Well D_1	Well D_2	Well D_3
9/19[2]	276	294½	296¼	295¼
9/20[3]	275	293¾	296	295
9/21[4]	294½	295	296	294¾
9/22[5]	294¾	295	296¼	295¼
9/24[6]	315	297¾	297½	295¾
9/25[7]	339½	300	299	296¼
9/26[8] (11 a. m.)	339	300½	298¾	296¾
9/26 (2:30 p. m.)	293	299¾	298½	297
9/27[9]	296¾	297	298¼	296½

[1] Data were obtained in 1934.
[2] Pressures were observed approximately 5 hours after the outflow test was begun. The rate of delivery from well D was approximately 4,760,000 cubic feet of gas per 24 hours.
[3] Pressures were observed 23½ hours after the outflow test was begun. The rate of delivery from well D was approximately 4,750,000 cubic feet of gas per 24 hours.
[4] Outflow test was terminated the preceding day, and well D had been closed in 21 hours.
[5] Well D had been closed in 48 hours.
[6] These pressures were observed approximately 24 hours after inflow test was begun. The rate of gas delivery into well D was approximately 4,870,000 cubic feet of gas per 24 hours.
[7] Pressures were observed after gas had been delivered into well D for 24 hours at the rate of approximately 9,500,000 cubic feet per 24 hours.
[8] Pressures were observed (11 a. m.) after gas had been delivered into well D for 48 hours at the rate of approximately 9,500,000 cubic feet per 24 hours. The delivery of gas into well D was terminated at 12 noon and the pressures on the wells were gaged approximately 2½ hours later (2:30 p. m.).
[9] Pressures were observed approximately 24 hours after the inflow test was completed.

flow tests would not be affected by cavings or cuttings from the formation in the well bore.

An outflow test was made on well D September 18. Well pressures and corresponding rates of delivery based upon stabilization periods of approximately 1½ hours were obtained under four operating conditions.

A second outflow test was begun on well D September 19. Well pressures and corresponding delivery rates based upon stabilization periods of approximately 1½ hours were obtained under two operating conditions. The delivery of gas under the second operating condition was continued for approximately 24 hours.

Some difficulty was experienced in connecting the critical-flow prover to the "blow-off" fitting above the top gate valve on the well. The prover, therefore, was not disconnected from the wellhead fittings while the well was closed in between the outflow tests made September 18 and 19. Considerable gas leaked through the valves and escaped from the prover during the interval between the two outflow tests when valves a, b, and c (Figure 3) were closed. Nevertheless, the shut-in pressure gauged on well D before the out-flow test September 19 was 295 pounds per square inch gauge, or the same as that observed when blow-off fitting d was plugged. A blind plate was inserted in the pipe line connection from the well to eliminate the effect of possible leakage from the pipe line (line pressure, 360 pounds per square inch gauge) during the outflow test on September 19 and on later measurements of shut-in pressures. The prover was removed and the blow-off vent was plugged on September 20, after completion of the second outflow test. The shut-in pressure on the well the following day (September 21) was 295 pounds per square inch gauge.

An inflow test was made on the well September 22. Before this test was begun the line connecting the well to the gathering system was disconnected at the well, and the gathering system was opened to the atmosphere at this point. The discharged gas stream indicated that the lines of the gathering system near well D were relatively free from foreign materials that might be carried into the well bore during an inflow test. Well pressures and corresponding rates of delivery of gas into the well, based upon stabilization periods of approximately 1½ hours, were obtained under five operating conditions.

The shut-in pressures on the well gauged before the inflow test September 22 and the following day, before the second inflow test, were 294¾ and 295¾ pounds per square inch gauge, respectively.

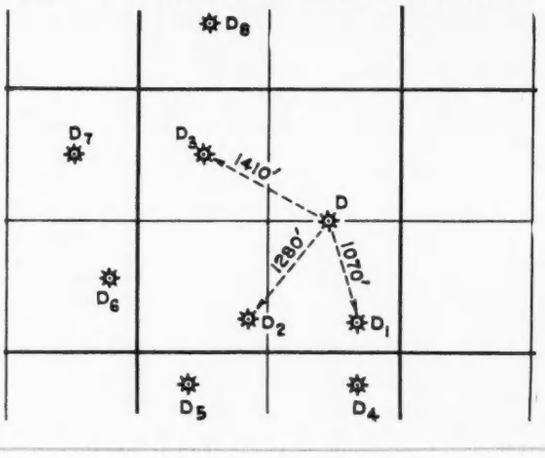
An inflow test was begun September 23, and well pressures and corresponding rates of gas delivery into the well were obtained under three operating conditions. Data based upon stabilization periods of 1½ hours and 23½ hours during the first operating conditions, upon a stabilization period of 1½ hours during the second operating condition, and upon stabilization periods of 1½, 23½, and 48 hours under the third operating condition are shown in Table 1.

The second inflow test was completed September 26. The shut-in pressure gauge on the well the following day (September 27) was 297 pounds per square inch gauge.

The relative locations of well D and nearby wells is shown in Figure 4. Wells D_1, D_2, D_3, D_4, D_5, and D_8 were closed in, and gas was being produced from D_6 and D_7 throughout the period of the outflow and inflow tests of well D. The shut-in pressures of wells D_1, D_2, and D_3 were gauged daily during the period of the tests of well D (September 19 to 27). These pressure data are shown in Table 3.

The pipe line connections to wells D_1, D_2, and D_3 were not blanked off with blind plates. However, it is improbable that leakage through the closed valves on the pipe line connections to the wells materially affected the relation of the shut-in pressures gauged on the respective wells during the period of the inflow test of well D. Although the pressure on the pipe line connection to these wells, normally about 200 pounds per square inch gauge, was maintained between 300 and 380 pounds per square inch gauge during the period of the pressure study, the change occurred two days before the initial shut-in pressures on wells D_1, D_2, and D_3 were observed; it is believed

FIGURE 4
Relative locations of Well D and nearby wells



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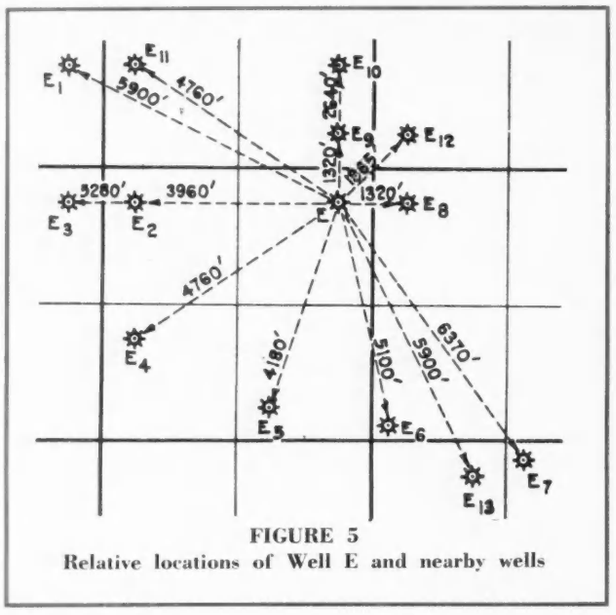

FIGURE 5
Relative locations of Well E and nearby wells

that later changes in the shut-in pressures of these wells were representative of pressure changes in the local reservoir zone.

Well E

On August 3 the shut-in pressure of well E near well D in the Shamrock field, Wheeler County, Texas, was 292 pounds per square inch gauge. A back-pressure or outflow test was made on the well to determine its producing characteristic. Wellhead pressures and corresponding rates of gas delivery after stabilization periods of approximately 1½ hours, were observed under five operating conditions.

Gas was delivered into well E at a rate of approximately 11,000,000 cubic feet per 24 hours from August 5 to 9. The rate of gas delivery into the well was changed August 9, and well pressures and corresponding rates of gas delivery after relatively brief periods of stabilization were observed under four operating conditions. The inflow test was terminated August 10, and the well was closed in. A shut-in pressure of 295 pounds per square inch gauge was observed on the well after it had been closed for approximately 15 hours.

A second outflow test was made on well E August 11. Pressure and flow data, based upon relatively short periods of stabilization, were obtained under four operating conditions.

Well E was open-flowed August 11 after completion of the outflow test, and some foreign material similar to cavings from the walls of the open hole or cuttings from the productive horizon was removed from the well. A third outflow test was made on the well August 12 after it had been "blown."

A second inflow test was made on well E August 13. Pressure and flow data based upon relatively short periods of stabilization were obtained under four operating conditions.

The gas was delivered into well E under natural pressure from other wells in the Shamrock field.

Shut-in pressures were gauged daily on 10 closed-in wells in the area around well E from August 4 to 12; these data are shown in Table 4. The relative locations of well E and surrounding wells are shown in Figure 5. Pressure data were not obtained on well E_{11}, E_{12}, and E_{13}, as they were being operated and their respective working pressures were influenced more by changes in pressures on the gathering system than by relatively small local changes in the reservoir pressure.

Well F

Well F was in Hutchinson County near Fritch, Texas. On August 15 the shut-in pressure on the well after being closed in for two weeks was 229 pounds per square inch gauge. The well was opened to the atmosphere for approximately 10 minutes after the shut-in pressure had been gauged. The stream of gas from the well showed little evidence of entrained liquid or cavings and it was assumed that the well bore was relatively free from such materials. An outflow test then was made on the well. Pressures and rates of gas delivery, based upon relatively short periods of stabilization, were observed under five operating conditions.

An inflow test was made of well F August 16 and 17. Pressures and rates of gas delivery were observed under five operating conditions August 16, and a check test was made August 17 under pressure and flow conditions similar to those included in the inflow test made on the preceding day. The gas returned to the formation through well F was produced from wells in the Panhandle field and was delivered from the discharge of a compressor plant.

The behavior of well pressures and gas-delivery rates during the tests of well F showed that pressure and flow conditions were approximately stabilized within an hour after operating conditions were changed.

(*The next installment will appear in an early issue*)

TABLE 4

Behavior of shut-in pressures on gas wells surrounding well E during outflow and inflow tests on well E

DATE[1]	SHUT-IN PRESSURES, POUNDS PER SQUARE INCH GAGE										
	Well E	Well E_1	Well E_2	Well E_3	Well E_4	Well E_5	Well E_6	Well E_7	Well E_8	Well E_9	Well E_{10}
8/ 3	292	...	...	...	...	...	...	...	...	...	...
8/ 4	...	293	295	295	296	297	295	294	293	293	293
8/ 5	...	294	295	295	298	298	295	294	293	293	293
8/ 6	...	294	296	295	298	298	297	296	295	296	294
8/ 7	...	294	295	296	297	298	296	296	295	295	293
8/ 8	...	294	295	296	298	297	297	296	295	296	293
8/ 9	...	293	296	296	298	298	297	297	295	296	293
8/10	...	293	295	296	298	297	297	297	295	295	293
8/11	295	293	295	295	297	296	297	297	294	294	293
8/12	293	293	295	295	297	296	296	297	293	293	292

[1] Data obtained in 1934.

Note.—An outflow test was made on well E August 3.
Gas was delivered into well E from August 5 to 9 at an approximate rate of 11,000,000 cubic feet per 24 hours and at lower rates on August 9. The working pressure on the well during this period was about 360 pounds per square inch gage.
An outflow test was made on well E August 11; after completion of this test the well was opened to the atmosphere for 25 minutes.

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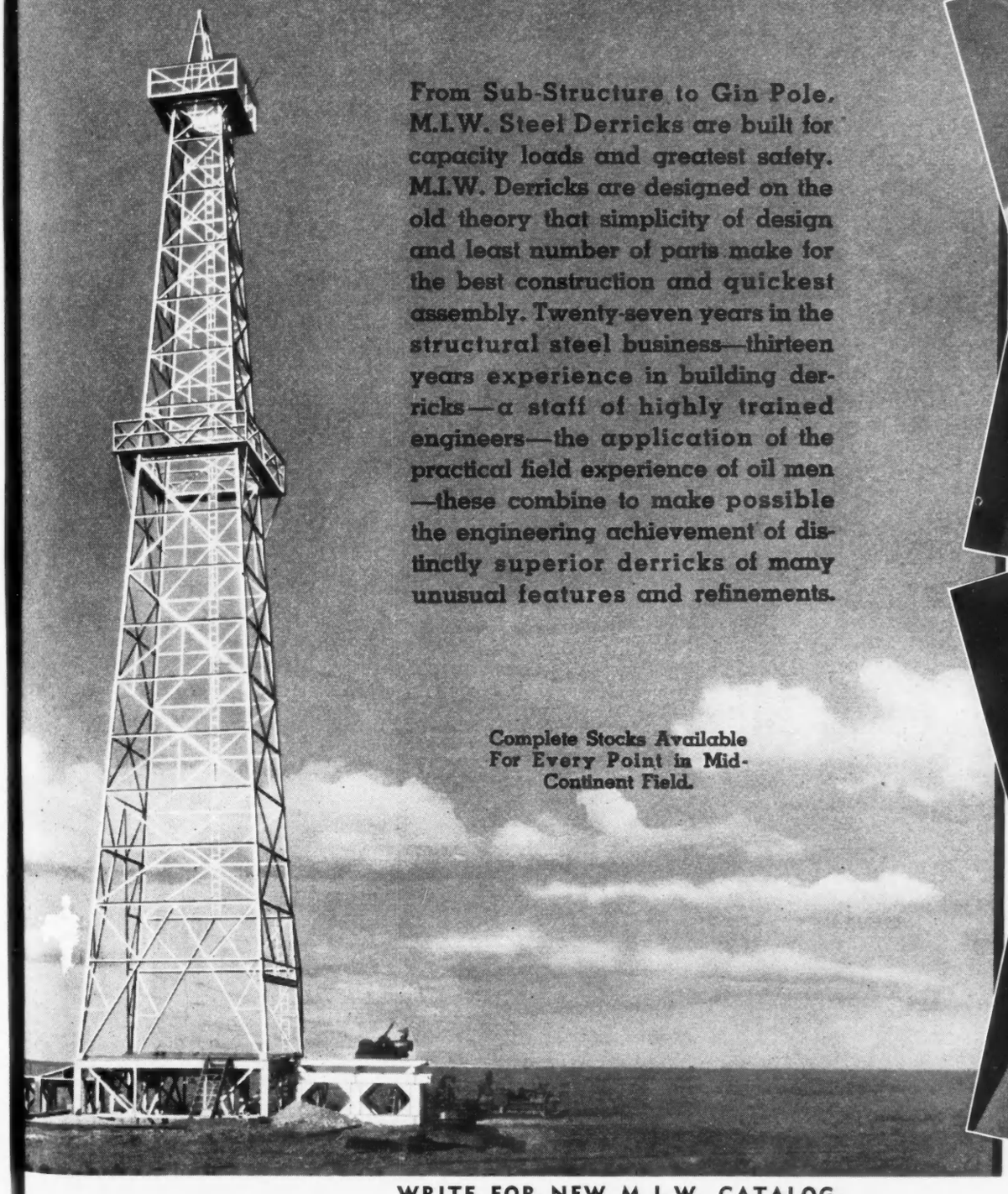

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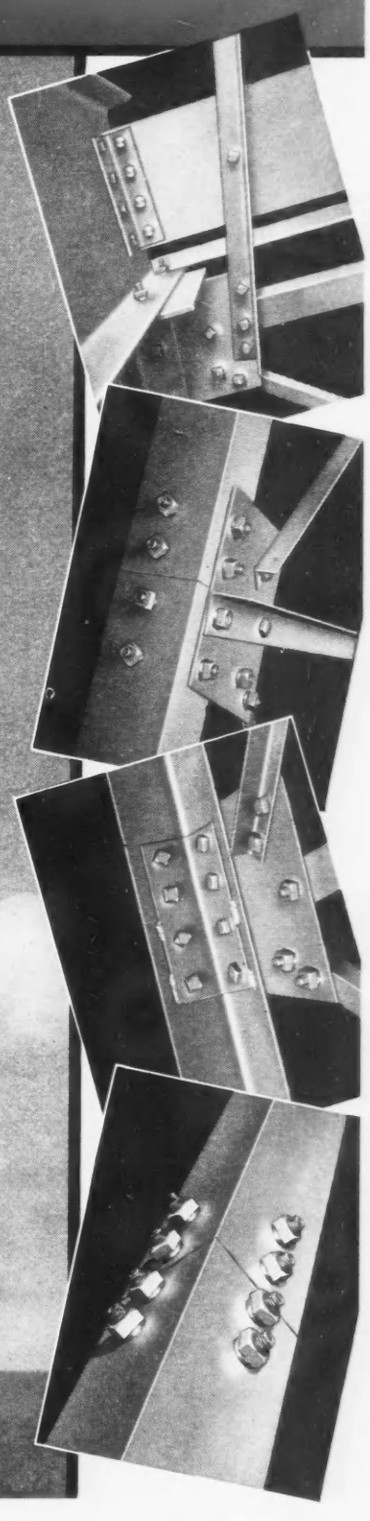

WRITE FOR NEW M.I.W. CATALOG

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Main Office and Plant Muskogee, Oklahoma
Thompson Bldg. Tulsa, Oklahoma
Kilgore, Texas

LARGE VOLUME OF EMULSIFIED CRUDE HANDLED EFFICIENTLY BY

Luling Treating Plant

By EARL S. POST, Staff Writer

A HIGHLY efficient emulsion treating plant has been constructed by Magnolia Petroleum Company at the south end of its large producing properties in the Luling field or Caldwell and Guadalupe Counties. The plant, just being completed, has a capacity estimated up to 20,000 barrels of fluid per day.

This new plant, which replaces one in operation for years, has been designed to conserve every possible bit of energy, increase treating efficiency and decrease operating costs. While its operation has been for only a short period of time, it already has shown these highly desirable features.

This company is at this time operating several hundred wells in this field, all being producers in the Edwards lime at depths around 2200 feet. Daily production is about 4900 barrels of net oil. The field is about eight miles long and is controlled almost entirely by Magnolia Petroleum Company. All oil produced by this company in this field must be treated through this plant before being turned over to the pipe line company.

The plant consists of two 104-horsepower boilers, six 1600-barrel tanks, one 3600-barrel tank, three 2000-barrel tanks, two 2600-barrel tanks, six 185-barrel treating units, pump station and auxiliary equipment.

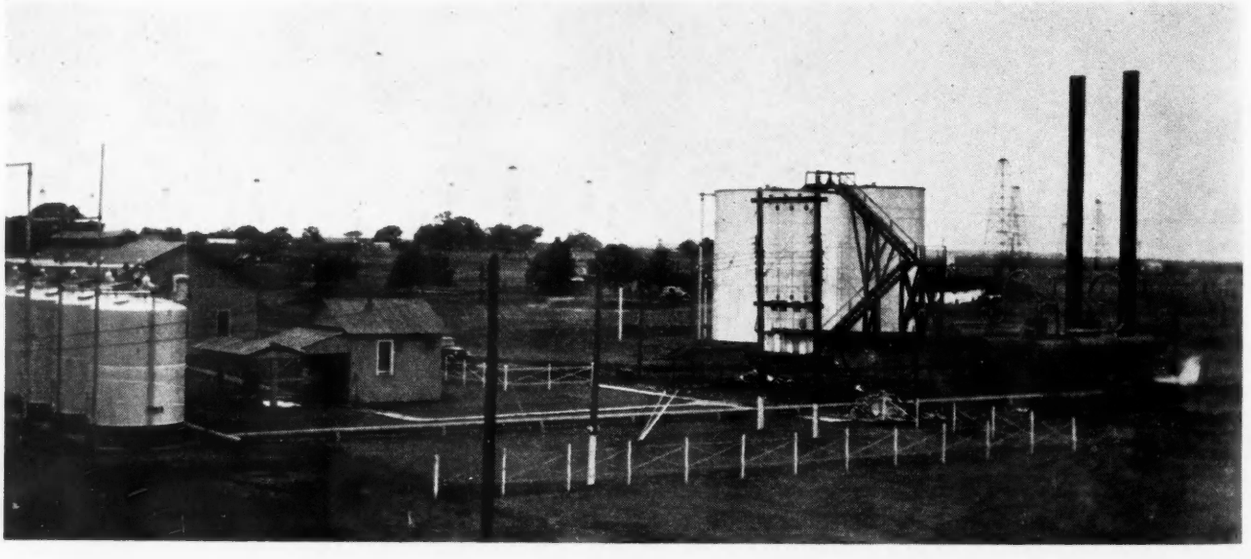
Oil from the Luling field contains a large amount of basic sediment and sulphur water. The fluid averages 80 percent undesirable fluid to 20 percent oil per well. This fluid is separated as much as possible through gunbarrels and turned into the stock tanks. It is then picked up and carried to an electrically operated pump station which in turn pushes the emulsion into a battery of two 2600-barrel storage tanks. These tanks are the first unit of the treating plant.

The fluid is then run through a series of coils at the boilers, which heats it to a temperature ranging from 145 to 180 degrees. The fluid is handled under 300 pounds working pressure in the boilers. From this point, the fluid is pumped through pipes encased in material to prevent cooling to the battery of treaters. From the treaters, the basic sediment and water is run to pits and the clean oil is run to a gunbarrel. This barrel is filled with cold oil at the same time the warm fluid is pumped in, so to bring the temperature to near normal. It is run to tanks for further cooling, then to the stock tank battery.

Magnolia Pipe Line Company has a pump station and connection to the producing company's stock tank farm for transportation.

The boiler set up is one of the most important features of the plant. It has been constructed to insure the maximum degree of safety. Boiler connections have been made to allow the regulation of fuel flow, thus keeping the fire at one level. Superheaters, condensers, etc, pick up the exhaust steam and return it to the boilers as hot water, thus reducing operating costs.

Magnolia Petroleum Company's emulsion treating plant in the Luling field. When completed the boilers also will be housed in a metal building.



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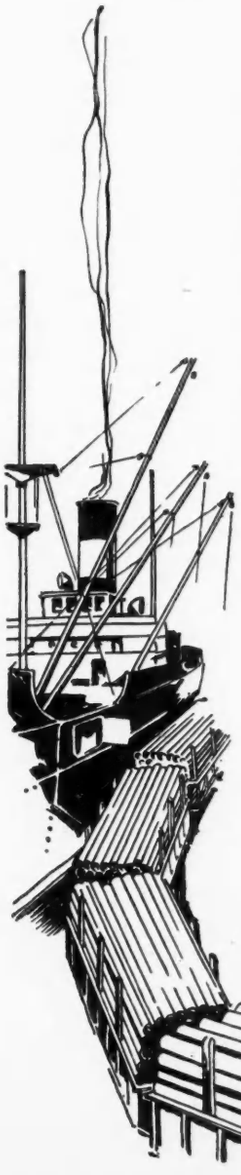

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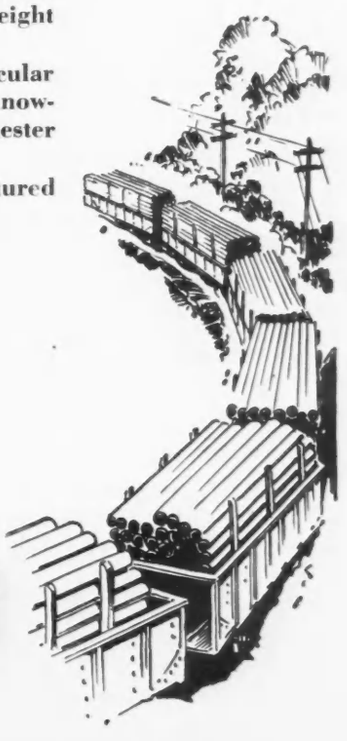


CHESTER

STEEL CASING AND LINE PIPE

Maintenance Work

SPECIAL PORTABLE DRILLING UNIT BY DEEP ROCK OIL COMPANY FOR PURPOSE

By JOHN C. ALBRIGHT

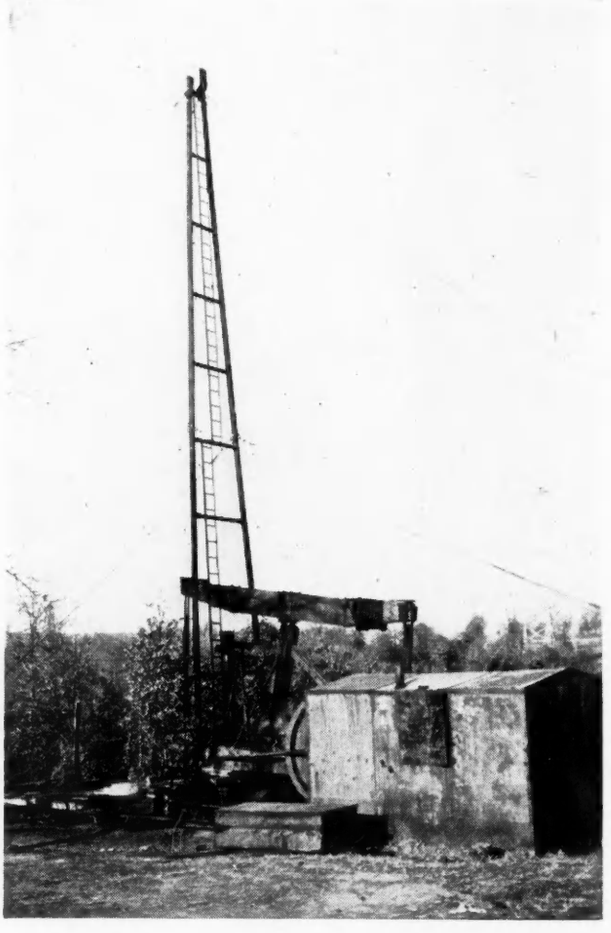
DEEP ROCK OIL CORPORATION has assembled a portable drilling unit for maintenance work, such as redrilling and cleaning out, as well as occasional new work built around a drilling machine. The drilling machine has been rebuilt and equipped with both a sand reel and a drilling cable drum which enables drilling to be carried as deep as 5000 feet if the occasion warrants. The cable reel is built upon the band wheel shaft with larger flanges than the original equipment, and operates by positive jaw clutches attached to the shaft and the cable reel sleeve. The sand reel is located just behind the band wheel shaft, mounted upon the main sills of the machine and operates by both a positive jaw clutch and an external compression friction clutch which is driven by a chain running from a sprocket attached to the positive jaw clutch on the band wheel shaft.

The prime mover for the drilling unit is built around a 6¼ x 8 gas engine. The engine is on the original "I" beam foundation, which is attached to a sub-foundation made from 6-inch pipe. The sub-foundation is constructed with the longitudinal sills turned up in the shape of sled runners to enable the unit to be easily drawn from one location to another, or loaded upon a truck and trailer with an engine bed. The sub-foundation is reinforced at each end with cross members, using the same size of pipe that was used for the longitudinal sills, or "sled runners." Additional cross bracing is secured by welding three-inch sections from one sill to the other at the proper intervals so the engine can be fastened to the foundation by using "U" bolts. The three-inch piping for the auxiliary cross bracing is used so smaller "U" bolts can be used in bolting the engine down, and also to obtain clearance for dragging the assembled power plant from one location to another.

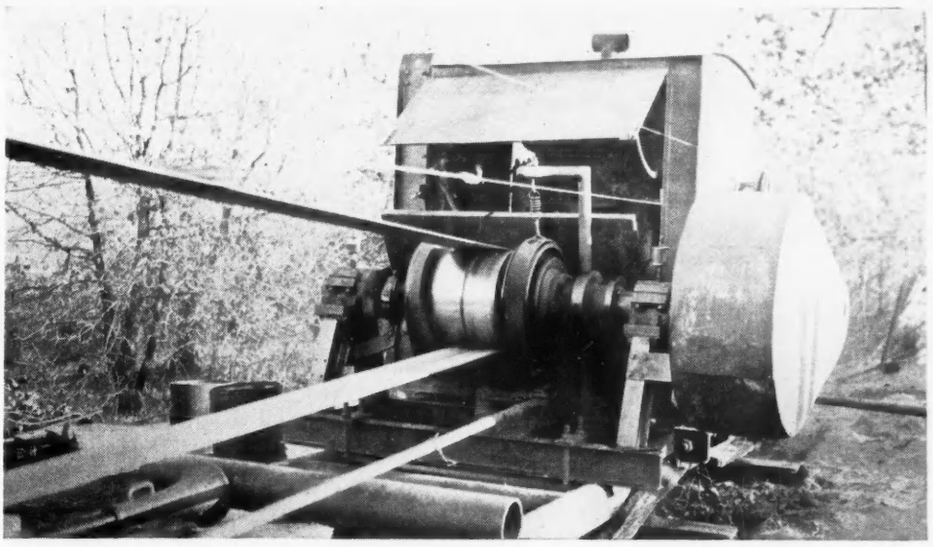
To transmit the power of the four-cylinder oil field special gas engine to the drilling rig, a reversible clutch is mounted on the front end of the skid foundation, using distance bolts from the "I" beam foundation of the gas engine to the "I" beam foundation of the reversible clutch unit. These bolts are placed in this position so belt tightening can be obtained with the proper alignment of clutch to engine. This clutch and pulley assembly is taken from an ordinary individual well pumping engine, such as has been used all over the country for this purpose. "A" frames for pillow blocks, or clutch shaft bearings, are welded to the "I" beams used for the clutch foundation.

"V" belts are used between the gas engine and the clutch unit by placing a grooved pulley on the engine shaft outside the plate clutch, and a larger one placed on the clutch assembly shaft secures speed reduction and added power. The multiple belt drive is housed with a sheet metal covering to protect it from the weather and so an employe can not become injured by having clothing caught in the rapidly moving parts. The cover is made in two parts with the lower section fastened securely to the frame of the engine and that of the clutch assembly by bolting a strap connecting the housing at these points. Lubrication of the clutch assembly is obtained in the usual manner by employing sight feed oilers to each shaft bearing.

The mast for drilling or pulling tubing or rods is



The mast used by Deep Rock Oil Corporation on its remodeled drilling machine

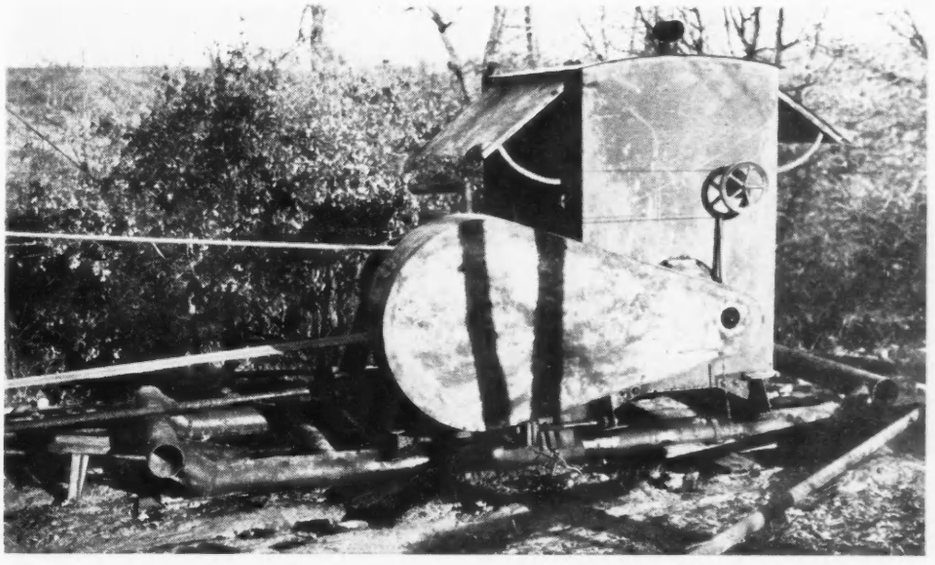


The clutch assembly. It is driven by V-belts (in the housing to the right) by the gas engine

made by using 5 3/16-inch casing, set up in the form of an "A" frame with the lower ends of each leg welded to a cross member of 10-inch pipe as a substantial foundation for the mast to rest upon. The mast gradually tapers from the base to the top where two sheaves are placed, one for the drilling cable and another for the sand line to run over. The bearings of both of these sheaves are lubricated by using a pressure connection on each end of the shaft. The "A" frame mast is cross braced directly from one leg to the other instead of using diagonal type strengthening. The top five cross members are welded directly to the legs, as is the base, or large foundation cross piece. The other cross braces are detachable, and are removed or applied by using bolts. Lugs are welded to the sides of the frame at these points with eyes punched in the outer ends for bolting. When drilling, cleaning out or reworking a well, some of the cross members are removed to permit the walking beam to extend through the legs, but when pulling rods or tubing, all the cross members are used. The mast is guyed at the mid-section and at the top. Hooks are welded to the legs at these points so the usual guy lines can be attached rapidly, yet the hooks are deep enough that the wires will not slip off when strains are placed on the mast.

The controls for the drillers use are placed at a convenient point at the end of the machine sills and the telegraph line is attached to the machine and operated through an extended shaft with a hand wheel on one end and the usual sheave on the other. The hand wheel is purchased from an automobile supply store and is one ordinarily used on a popular priced motor car for steering. The shaft of this control is necessarily long to provide clearance for the telegraph wire, which runs from this point back to the throttle control on the gas engine. To obtain the proper tension on the belt running from the engine clutch to the band wheel of the machine, a 6 x 8 timber is placed against the sills of the machine and an ordinary screw jack placed against the sub-foundation of the engine unit, with the end of the timber placed against the head of the jack when it is tightened.

Drillers who have used this machine for cleaning out, reworking and for drilling new wells claim that it is easily controlled and hole can be made rapidly and easily as deep as 5000 feet.



The power plant used by Deep Rock Oil Corporation is enclosed in this skid mounted house

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Compressor foundations before the engines have been set.

Selection of Site for Gas Booster Stations

CONSIDERATION OF SEVERAL GENERAL FACTORS IS VERY IMPORTANT

By FRANK B. TAYLOR, Staff Writer

PRIMARY compressor stations on a gas transmission line are those necessary to supply the immediate or initial line loads, and are restricted as to location upon the first station from the producing zone. This first compressor station, generally located at or near the junction of main field lateral or gathering lines, must handle all main line gas at a discharge pressure sufficient to overcome load loss and friction between it and the next booster. Also, as it is dependent upon the field for its suction pressure, the present and future expected rock pressures and volumes must be considered in selecting a suitable site.

After analysis of the probable extent and duration of a producing zone, correlated with the expected volumes to be passed, the site for the initial compressor station is selected tentatively. Certain other important factors may make the first selection impractical from either an engineering or practical standpoint.

The location of other sites along the right-of-way for compressor station equipment is limited from an engineering angle as to the volumes to be passed, peak loads, line pressure loss due to friction and intermediate demands. It is also frequent that provisions are made for increasing line capacities by the construction of intermediate stations, or by the placing of additional equipment in those already constructed. With such calculation in hand, definite sites can be acquired, agreeing with the limitations already imposed.

Site Area

The extent of a compressor station site is immediately dependent upon the equipment to be installed. Two items of such equipment are of major importance; the first being relative to water supply cooling. Ordinarily, water cooling towers will be used that do not require much footage. At other times this is inadvisable and a reservior or lake is necessary which will at least double the total area requirements. Housing facilities for company employees is a major consideration in determining plot area.

It is a general advantage to have the length of a site parallel to the main transmission line so that all station control gates are located in station property. This also is a definite advantage where the installation of additional equipment is probable.

General station construction includes a main en-

gine room, auxiliary, operating office, after-cooler, scrubbers, water system, driveway and minor equipment. Larger stations may include water storage tanks, houses, dehydrating plant, gasoline extraction unit and other mechanical equipment. The area necessary to enclose such housing structures, plus protective spacing, will determine the acreage required for the site.

It is always well to include in the original purchase more than enough land to meet known future construction needs. If a lake is to be used as water supply, the entire area to be flooded at high stage should be obtained, as it is generally more reasonably purchased at that time than later.

Adjacent Property

City locations, besides the increased initial expense, are subject to continuous difficulty. City zoning ordinances must be respected, and not infrequently companies must deal with irate property owners who claim damage due to the proximity of the station. It is a common practice, where a theoretical site is within city limits, to select a site immediately without the city's border, but sufficiently near so that no company houses would be necessary.

The problem of suitable water in sufficient quantities for continuous operation is practically individual with every location. There are sections where it is economically impractical to locate a compressor station for this one reason. Impurities necessitating costly treatment often make site selection changes.

Wells, streams, and where advisable, reservoirs; serve as water supply. Drilled well water ls usually more free of foreign matter and consequently not as necessary to treat as a supply from a stream or lake; provided that the water of the well is obtained from a sand formation and not lime or shale. Lake and stream water must usually be treated by some of the processes. Wells contribute considerable trouble to station operation and must be cleaned periodically. On the other hand, lakes and reservoirs tend to fill with silt. The removal of such deposits is a major maintenance expense.

Transportation

Regardless of the selection of the site, the transportation of all the heavy equipment to the location will be of major construction expense. A thorough investigation of roads, bridges, and rail connections is an item of material worth. Load clearances must be ascertained and in some centers, permits must be obtained for the passage of the heavy frames and flywheels.

The avoiding of as many transportation dangers as possible will expedite work and considerably lessen total construction hours, besides being desirable from a safety-first viewpoint. If a gasoline extraction plant is planned in conjunction with the compressor station, facilities must be at hand or arranged for disposal of the finished product.

Other Factors

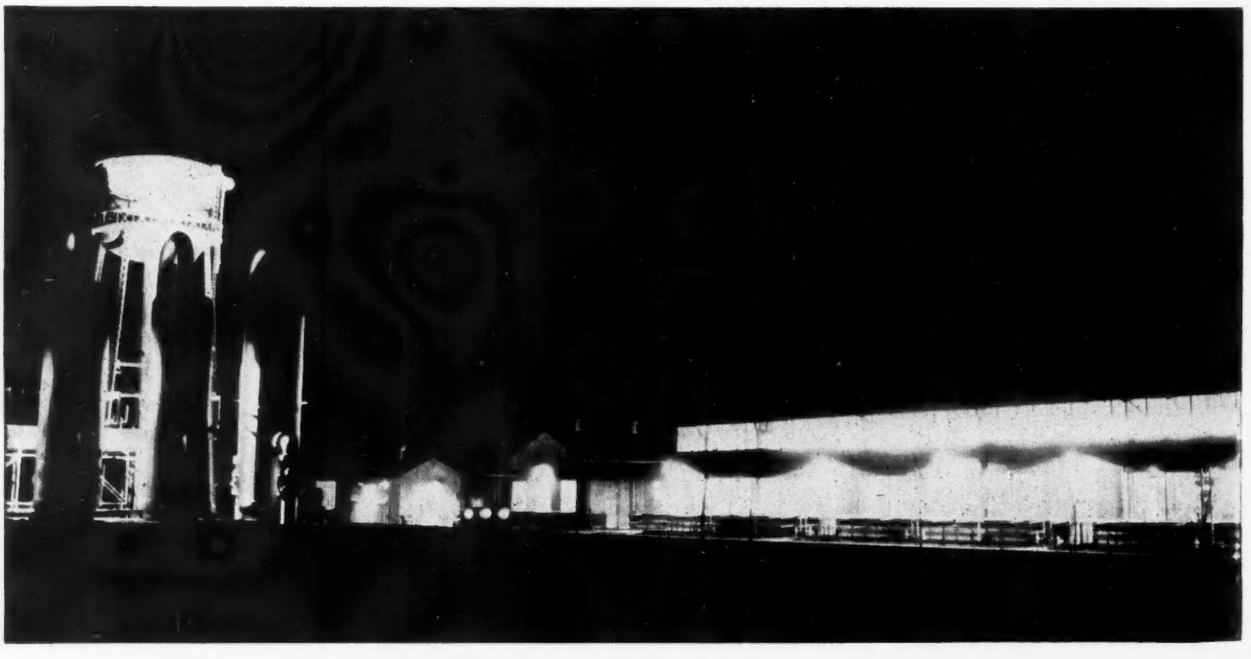
Certain other factors enter into the selection of a compressor station site that can generally be dealt with as they arise. One of these is adequate knowledge of subsurface strata, and their adaptation in the matter of engine foundations. Usually a minor consideration and presenting problems that are swiftly overcome, the subsoil characteristics should be investigated previous to final approval.

There will usually be a certain amount of drainage from the average station that must be given proper disposal. Lowlands often present the problem of drainage of surface waters.

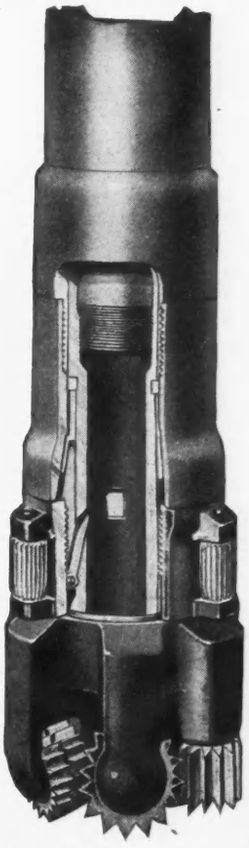
If it is found necessary to construct a reservoir for water supply purposes, such construction must be based on the drainage topography of the area. This includes an examination of the moisture content of the soil, the vegetation retarding free drainage and possible diversion of water for other purposes.

Records of precipitation must be consulted to determine the average fall, and this correlated with the necessary supply determines the necessary impoundage.

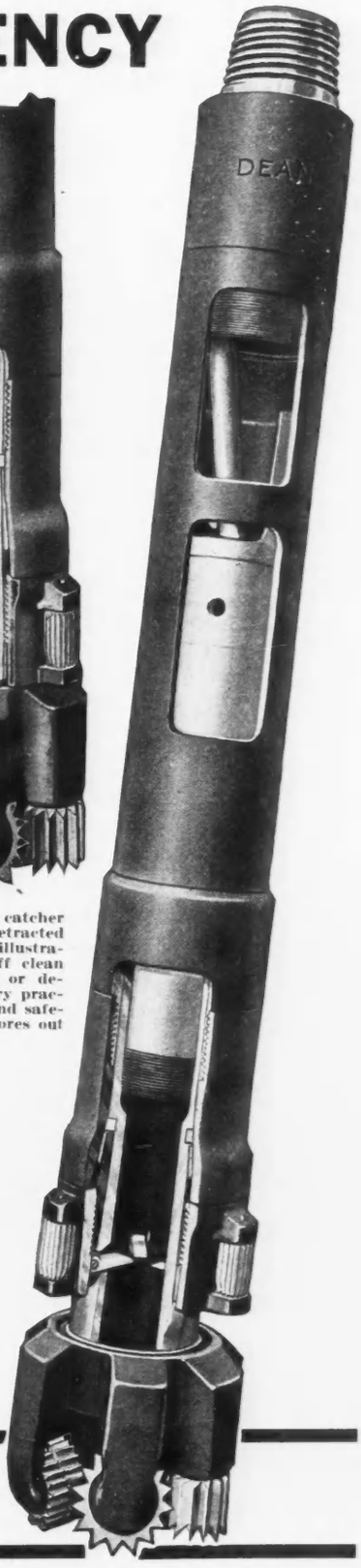
Night view of one of the large gas compressor stations in the Panhandle.



A Sample of
DEAN CORING EFFICIENCY



The patented core catcher dogs (shown in retracted position in above illustration) cut cores off clean without breaking or deforming. Will carry practically any load and safely bring perfect cores out of the hole.



Here's a core that's really a *core*. Nine feet long—8½ inches in diameter—solid limestone—in one perfect cylindrical piece. Driller Jack Tammler and his crew can afford to smile—it was a mighty good job of coring. This is a typical example of the remarkable core recoveries possible in all formations with Dean Core Drills.

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DEAN CORE DRILLS

Accurate Well Logs

INVOLVE CLOSE CONTROL OF BOTH MECHANICAL AND MANUAL FACTORS

By BRAD MILLS, Associate Editor

A COMPARISON of the average Gulf Coast well log of 20 years ago with one of today reflects the progress that has been made in this important operating phase. Recent drilling in areas that were under intensive development from 1910 to 1920 reveals glaring inaccuracies in "drillers' logs" of former years, largely accounts for many "unconformities" that did not exist. An honest effort in a rough and general way was made to compile a good well log, but the means at hand fell far short of present requirements.

The attitude toward an accurate well log during the first 20 years of the present century was not such that prompted a great deal of interest and pride in its compilation. The evolution of the valuable and accurate log of today has been slow, and during the greater part of the past 15 years has been tinged with opposition from executives who were not convinced of the necessity for the extra expense involved.

The success of many of the larger companies in their early efforts to compile a more complete well log helped to break down the resistance of the smaller operators who had only one objective—a known or suspected producing zone. The gradual realization that establishment of definite markers was important, and that the position of a well on structure should be known in advance of attainment of the producing zone, encouraged operators to continue their efforts toward compilation of a representative well log.

Guess Work

The position of the early Gulf Coast wildcatter was weak largely because he seldom could be sure of formation changes that were the key to his problem. The driller attempted to log the formation by the "feel" of the drill pipe and by the casual examination of cuttings in the mud line. Radical changes in hardness and texture were noted, but much guesswork entered into the daily calculations.

Mechanics enters into the compilation of a well log in a number of ways, although the human element still is a strong factor. Sample catching, or the simple gathering and sacking of cuttings at regular intervals, has become one of the most important phases of log work. Gulf Coast companies have been experimenting with various sample catchers, but for the greater part have discarded the fancy type for the simpler designs. A great deal of work also has been done toward determination of the "lag" of cuttings during rapid drilling operations. In the average well the time required for the mud to bring the cuttings to the surface is considered negligible, although it is known that they can not possibly represent the exact formation being drilled at the time they are caught. Since samples serve only as a general guide where frequent coring and electrical logging follow, the cuttings are very representative in average formations.

All of the major companies attempt to dovetail their sample catching, coring, electrical logging and paleontological work, with the "drillers' log" also being considered an important part of the finished log. In the shallower formations in proven areas, it is not unusual to log the unimportant strata from the driller's record. In wildcat tests or in important wells, more exact information is used even for the upper formations.

Humble Oil & Refining Company takes samples every 30 feet, or when each joint of drill pipe is added, but all oil sands and questionable formations are cored. The cuttings usually reflect the approach of objective zones, but sudden changes are not unusual. Where there is a doubt as to the top of an important zone or marker, electrical logging is employed. The tops and bottoms of the average Gulf Coast formations are not as sharp as in other producing districts, and it is very difficult to determine where one ends and the other begins. The transitional strata usually is a "blending" of the two zones, and fossils of both may slightly overlap. This company has no set rule for coring or electrical logging, but uses either when there is a question as to the origin or identity of the cuttings.

Much coring is done in wildcats, since cuttings do not offer an accurate record of tops and bottoms of thin zones that may be important markers. Samples taken every 30 feet offer a good opportunity for error, although they serve as a good check and nearly always pave the way for more detailed coring records.

Humble Oil & Refining Company considers the time required for cuttings to come to the surface as a negligible factor in the average Gulf Coast well, and no allowance is made for the lag. In field development, the lag in one well roughly equals that in another, a fact that gives uniform results so far as structural trends are concerned. This company uses a sample catcher of its own design, and also

watches the returns as reflected by the vibrating mud screens.

Gulf Oil Corporation also catches samples every 30 feet after passing the critical level, and takes a core every 50 feet. One is plotted against the other and any marked inconsistencies are easily detected. This company uses electrical logging as a check against its own mechanical observations.

Gulf Oil Corporation has attempted to simplify the sample-catching operation and simply uses a heavy screen or "rat trap" that is placed in the mud line when the cuttings are wanted. The samples are sacked and labeled by a trained man, although an effort has been made to bring the operation within the limitation of an ordinary derrick man. The company has found that men on the well respond better to a simple catching process than to a complex catching scheme that requires both time and skill. No allowance is made for lag of cuttings in most of the drilling wells, but in important tests, particularly wildcats, an adjustment may be made. Coring always follows the catching of samples that indicate questionable or objective formations, and for this reason it is not necessary to worry with the lag of the cuttings. Electrical coring may be used as an additional check, where the absolute top of a formation has been passed during rapid drilling operations.

This company has found by recent drilling and by a study of old logs that the "drillers' logs" of 15 years ago were very inaccurate. Day after day of drilling, even in wildcats, the formations were logged "gumbo and boulders". The same formations now are labeled "shale and lime", and the latter phrase more nearly expresses the true condition. The driller could not detect formation changes that now are considered important, and that are shown by an examination of samples. The limited amount of coring done 15 years ago also was a factor in the compilation of inaccurate logs. The driller was influenced by the "feel" of things, and did very well in detecting sharp formation breaks or changes.

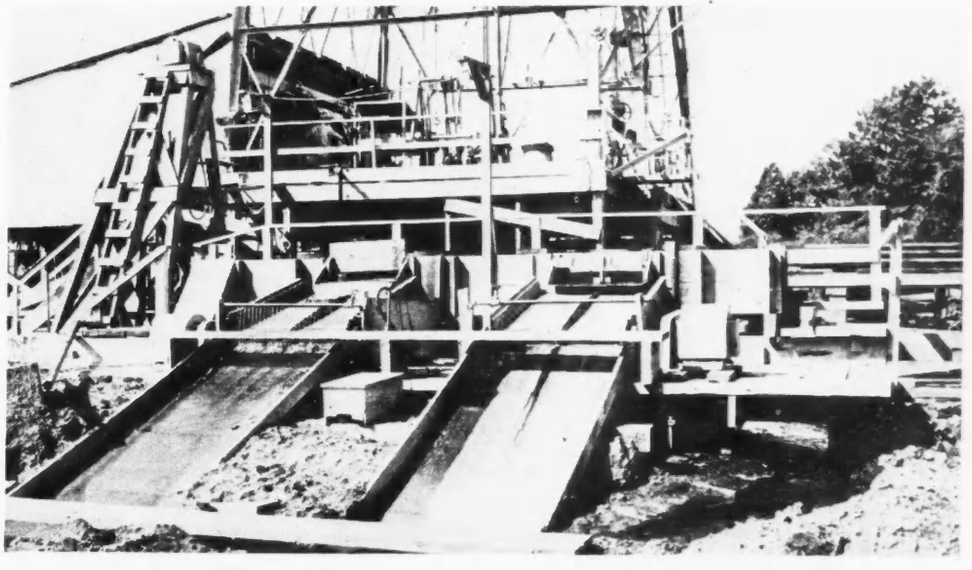
Continental Oil Company has compiled some of the most accurate logs yet finished along the Gulf Coast. In its Calhoun County, Texas, operations, several factors affecting the catching of samples were considered. Since all wells drilled in this district are located in a heaving shale belt and it has been impossible to take cores while using casing as drill pipe, the exact origin of the cuttings caught was very important. In this particular area, samples are necessarily the very foundation of the well log.

An engineer spent some time in calculating the speed of the cuttings in the mud, and was able to determine the depth from which each sample came. At 5000 feet the cuttings required about 17 minutes to pass from the bottom of the hole to the surface. At 8500 feet the time required was about 30 minutes. The speed of the cuttings in open hole and on the outside of the 8⅝-inch drill pipe was 111 feet per minute, but the rate of travel above the open hole and between the 8⅝-inch drill pipe and the 11¾-inch casing was 420 feet per minute. Thus the cuttings had two definite rates of travel in their course from the bottom of the hole to the surface.

It was possible to plot the log after considering the drilling rate and speed of the cuttings. The company keeps a drilling chart that shows the time required to drill each foot and each 10 feet. Adjustments can be made that will place the cuttings at an exact level. There is always the possibility of obtaining cuttings from various levels in the open hole, but after a good sequence has been established, the paleontologist usually can detect the intruding samples.

The work done along this line by Continental Oil Company indicates that handicaps can be overcome where samples must be considered "exhibit A" in well log data. Ordinarily coring would follow the sample catching, but casing has been used as drill pipe in the heaving shale belt, and drilling must not be stopped for coring.

Several companies have attempted to calculate the lag of cuttings in the mud, but encountered so many variable factors that the effort was hardly worth the time and trouble involved. It is possible in any well and under any condition to determine the time required for cuttings to come to the surface from bottom, but each well requires its own coefficients. Where coring and electrical logging are employed, it is hardly necessary to split hairs in determining



Sample caught from vibrating mud screens are used by many companies.

the origin of cuttings. Where drilling is rapid, the bit may be making hole considerably below the point at which cuttings originated, but more detailed determinations that follow usually check and correct this lag.

Dyes and foreign matter have been placed in the mud line to check the speed of cuttings, but this practice has not been altogether satisfactory. The speed of the mud downward through the drill pipe is much faster than the upward rate of flow, where open hole is carried, and this fact adds to the difficulty of determining the percentage of the round-trip time that is required for the mud and cuttings to pass from the bottom of the hole to the surface.

Some of the small companies catch samples by turning the mud returns into a box or trough. Continental Oil Company uses a "double barrel" trough, first turning the mud flow through one side and then through the other. This gives two possible sets of samples from the same level, but the two are obtained simply to make a thorough test. After the test is made the trough is washed for catching the next sample. Several companies use drop nipples, bull plugs and baffles of various kinds. One device consists chiefly of a nipple that drops down from a four-inch tee in the flow line and two valves. Immediately beyond the tee and in the flow line is a baffle that closes the bottom half of the line. This obstruction causes a part of the cuttings to drop down into the sample catcher. By closing the top valve and opening the bottom valve, samples may be obtained at any time.

Cuttings from the vibrating screen are considered very good samples. In the Gulf Coast there is always the possibility of obtaining cuttings that come from a part of the hole far above bottom, but a good paleontologist can separate most of the intruding members after a considerable depth has been reached.

The principal factors involved in plotting a good Gulf Coast log are both mechanical and theoretical. They are sample catching, coring, electrical logging, "drillers' log", geology and paleontology. The well log of 20 years ago was plotted largely from the driller's report, which was accurate in some formations and very inaccurate in others. One phase of the present method is compared with another, and each serves as a check on the other. The first indicated changes or breaks, or the approach of objective formations as shown by samples, is checked by coring and electrical logging. The tops are determined by comparison and by more detailed work than was shown by the changes indicated by cuttings alone.

The finished log represents the formations as they were determined by various phases of the work. Hard streaks and soft strata shown by the driller are identified in a more exact manner by an examination of samples and by application of geology. The finished log represents the combined work of the driller, the petroleum engineer, the geologist, the paleontologist and the draftsman. The log of 20 years ago represented the driller's best efforts to identify the formations by the "feel" of the drill pipe and by his own examination of the cuttings. Many companies kept geologists at important wells, however, and not all of the 20-year-old logs were inaccurate.

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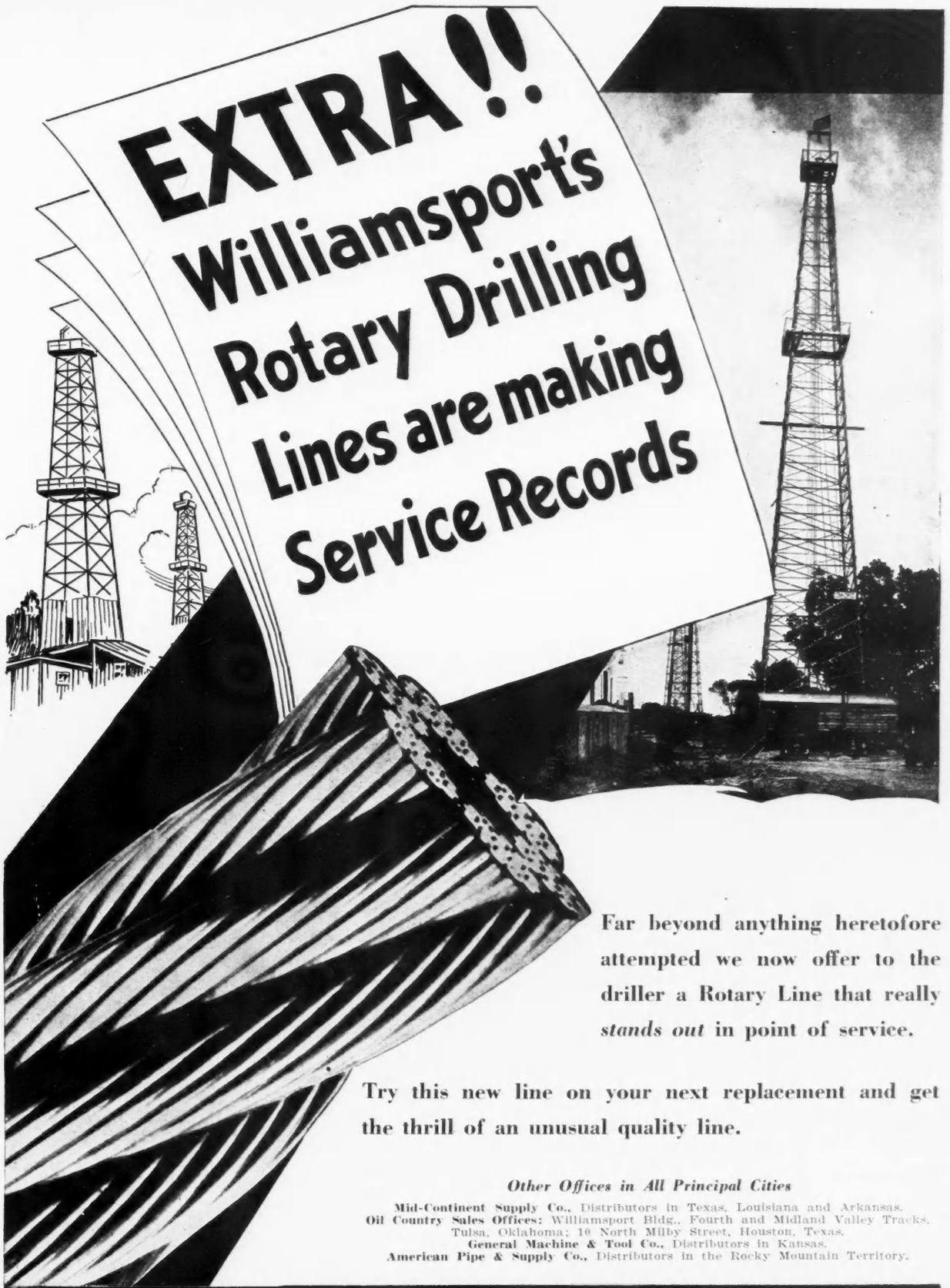

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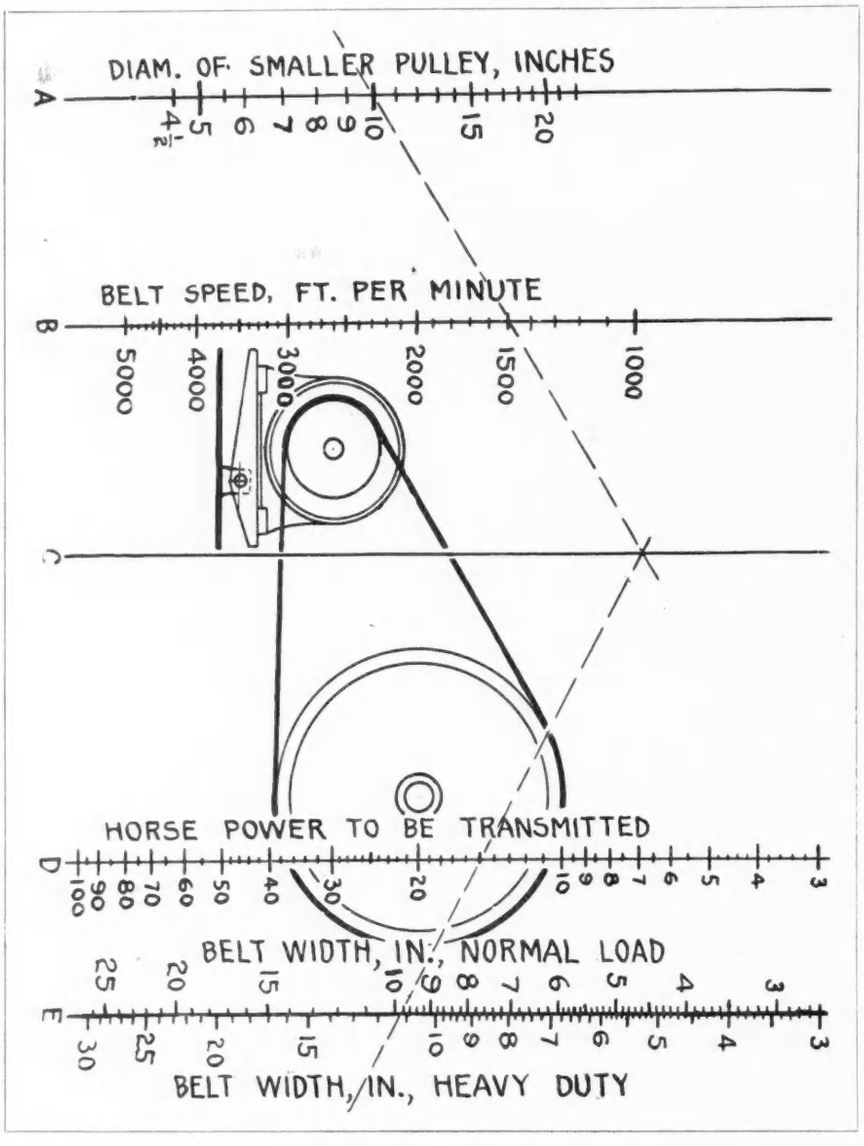
A Short Center Belt Drive Chart

By W. F. SCHAPHORST, Mechanical Engineer

THE accompanying chart for up-to-date short center drives as used in the oil fields is based on the fact that the diameter of the smaller pulley has much to do with the belt width required to transmit a given horsepower. Thus, in the "old days" the following rule was used: "A belt one-inch wide will transmit one horsepower for each 800 feet per minute belt velocity." Such a rule is no longer applicable to the modern short center drive, as a study of the chart will indicate.

To use the chart, run a straight line through the diameter of the smaller pulley, column A, and the belt speed in feet per minute, column B, and locate the intersection in column C. Then from that point of intersection run a second straight line through the horsepower to be transmitted, column D. The intersection with column E then gives the proper belt width to use.


DIAM. OF SMALLER PULLEY, INCHES
A
4½ 5 6 7 8 9 10 15 20
BELT SPEED, FT. PER MINUTE
B
5000 4000 3000 2000 1500 1000
C
HORSE POWER TO BE TRANSMITTED
D
100 90 80 70 60 50 40 30 20 10 9 8 7 6 5 4 3
BELT WIDTH, IN., NORMAL LOAD
25 20 15 10 9 8 7 6 5 4 3
E
30 25 20 15 10 9 8 7 6 5 4 3
BELT WIDTH, IN., HEAVY DUTY

For example, the two dotted lines drawn across the chart show that where the smaller pulley has a diameter of 10 inches, the belt speed being 1500 feet per minute, and 15 horsepower are to be transmitted, a belt 10 inches wide will be required if the load is normal. Column E also shows that if it is a "heavy duty" load the belt should be a little over 11 inches wide. In other words, column E takes care of both normal loads and heavy duty loads.

This chart is safe for all practicable short center drives and for all pulley ratios up to 6 to 1; belts being two-ply and of high quality. For longer center distances the results are even safer. Which means, of course, that this chart may be safely applied to all center distances that have the approval of up-to-date practice.

Market Set Back

SOME GASOLINE PRICES LOWER AND WYOMING CRUDES ARE CUT

THE market situation grew a shade darker last week, and prices lost a little ground. Gasoline tank car prices became weaker in East Texas and North Louisiana, and crude prices were cut 10 cents a barrel in two Wyoming fields.

Although gasoline demand has been running at all time record levels, output of gasoline at the refineries has been proportionately high, and gasoline stocks also are comparatively heavy. The gasoline tank car prices are favorable, but the further gains that some were expecting within the past few weeks currently do not seem likely to materialize in the immediate future. Instead, the recessions in East Texas and North Louisiana give warning that care must be taken lest there be a surrendering of some of the ground now held.

Crude Control Outlook

Beneath the present market lies the threat that August may bring less effective control of crude production than the restraint practiced in June and July. Oklahoma producers are actively seeking some loosening of the restraint upon them, in considering August allowables, and this week will ask the corporation commission to boost allowables into conformity with the Bureau of Mines recommendations. In June and July the state allowables and also actual production were under the federal allocations.

Meanwhile, the Texas Railroad Commission is finding it increasingly difficult to hold that state's production in line with the Bureau of Mines recommendations. Drilling of new Texas wells has driven well allowables down to low figures. In the East Texas field, particularly, the well allowables are low, having been brought down almost to the 20 barrels daily, below which wells of that depth cannot be curtailed, under the Texas law.

Stanolind Oil & Gas Company, effective July 20, reduced its posting 10 cents a barrel on Elk Basin crude and Grass Creek light oil, the new posting for these two Wyoming fields being $1.18 a barrel. The Ohio Oil Company met the new price, effective July 20. Adjustment in the price became necessary, it was said, because of competitive marketing conditions in the territory, in products made from the crude involved.

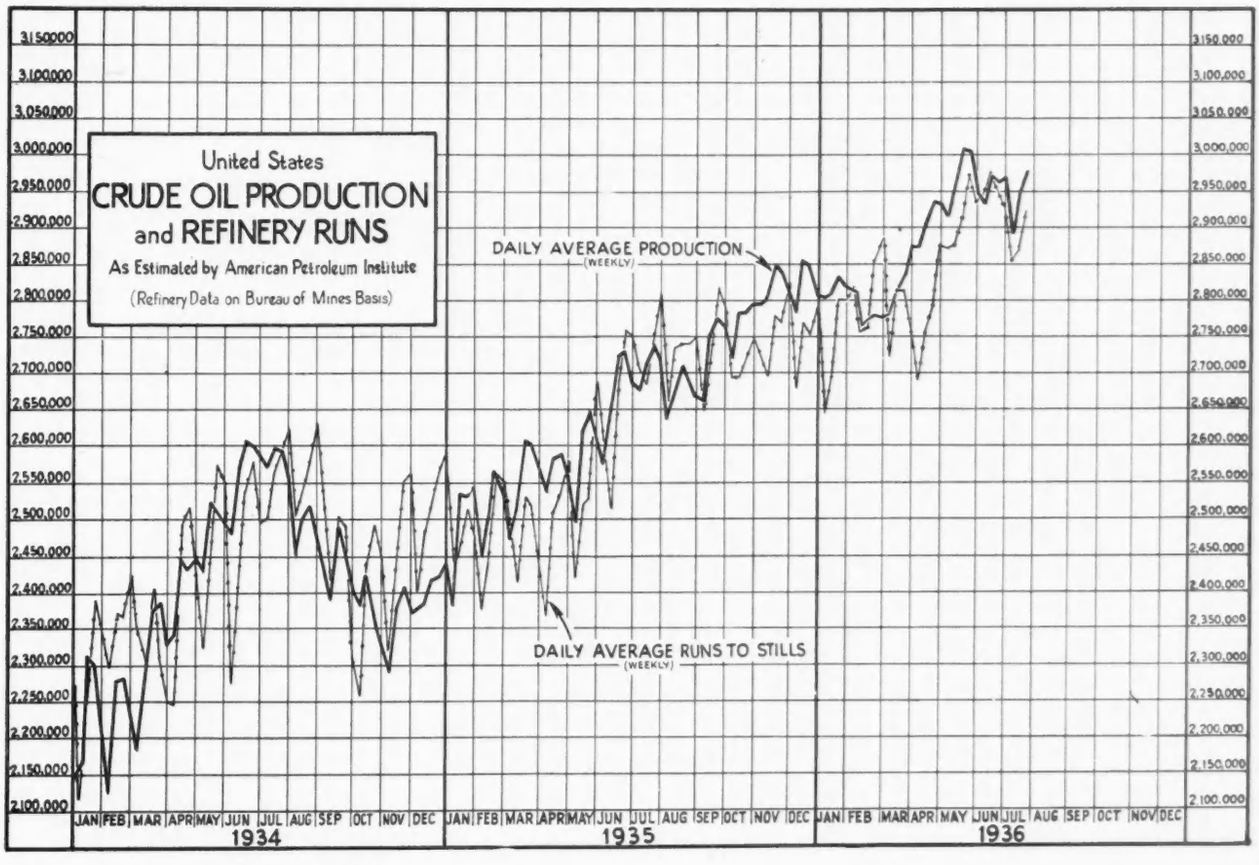
Mid-Continent Prices

Last week the prevailing price on fully tendered East Texas third grade gasoline f.o.b. refineries in the district was 4¾ cents a gallon. In the previous week some sales had been made at 4⅞ cents. Lower prices applied, as usual, on intra-state shipments, by rail and truck, of material not supported by federal tenders.

In the northern sections of the Mid-Continent, tank car prices last week were the same as the previous week, on both gasoline and kerosene. U. S. Motor gasoline was priced as follows f.o.b. Oklahoma refineries: 62 octane and below, 4⅞ to 5 cents; 63 to 67 octane, 5⅜ to 5⅝ cents; and 68 to 70 octane, 6 to 6⅛ cents. Corresponding prices in the Chicago market were 4¾ to 5 cents, 5 to 5½ cents and 5⅝ to 6 cents.

Fuel Oil for Storage

In both the Oklahoma and the Chicago markets, 41-43 water white kerosene remained priced at 3⅜ to 3⅝



cents, while the 42-44 water white grade continued at 3⅝ to 3¾ cents.

Last week brought continued interest in fuel oils for storage purposes, although sales were slow for immediate shipment. The market has resisted efforts to buy at lower prices, and consequently, inquiries have increased.

Natural gasoline prices have been pushed upward lately, with available supplies for immediate shipment scarce. The market has been featured by substantial inter-refinery buying.

East Texas Tank Car Shipments

Week Ending July 19, 1936

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	684	5,554,534
Fuel Oil	329	3,074,477
Casinghead Gasoline	179	1,512,045
Distillate	57	446,356
Topped Crude	30	253,217
Gas Oil	28	228,588
Kerosene	23	178,988
Residuum	15	123,240
Naphtha	15	121,460
Total	1,361	11,492,905
Total Previous Week	1,418	12,008,608
Interstate	531	.....
Intrastate	472	.....
Coastwise	358	.....
Total	1,361	.....

OKLAHOMA QUOTAS

Producers may ask for higher allowables

INDICATIONS are that Oklahoma oil producers will go before the Corporation Commission July 29 and ask for a substantial increase in output. The fact that the Bureau of Mines has estimated 569,200 barrels as safe production for Oklahoma in August, plus the steadiness of crude oil prices and slight increases in gasoline quotations are the factors which give producers courage for seeking higher allowable.

In addition, some state officials are known to lean toward a higher Oklahoma output. They are not satisfied with the turn of production in other states. The fact that Oklahoma is producing more oil than the amount set by its conservation body does not dim their precision in noting that such is true in other states.

Call for the meeting at Oklahoma City July 29 went out July 17, when W. J. Armstrong, chief conservation officer of the commission, advised purchasers of Oklahoma crude oil to make nominations either personally or by letter. From these the market demand for the state will be determined. From this, recommendations will be made to the commission for an order to cover August production.

The current trend of field work, however, is in favor of a stronger market. Drilling in Oklahoma does not offer the promise of substantial flush production over the near term. The north extension of Oklahoma City has passed the stage of a dozen wells each week with 20,000-barrel potential ratings for each. Only three wells were completed there last week and their combined potential ratings were around 30,000 barrels. The Moore pool, Cleveland County, is shaping up as small an area with most of its acreage in a community block. The Crescent pool, Logan County, has the prospect of increased output by deepening existing wells to the second Wilcox sand, from which two are not producing. But Crescent is a small pool in the first Wilcox sand, having only 32 producing wells.

This status of field work is encouraging from the viewpoint of holding output closer to proration figures. Flush output from new wells has been responsible for a large share of the excess since the drilling campaign of the north extension of the Oklahoma City pool got under way.

WELLS CONNECTED

Rodessa oil of American Liberty routed to coast

Shreveport.—Texas Pipe Line Company has connected to all of American Liberty Oil Company's Rodessa wells except those on the Rambo lease in Cass County, Texas. They have connections with Gulf Pipe Line Company. The Texas Pipe Line Company will take this Rodessa crude to the coast, it is said, and in return American Liberty will deliver the Texas Pipe Line Company an equal amount of East Texas crude.

238 PERMITS

Austin, Texas.—The Texas Railroad Commission last week approved permits for the drilling of 238 new wells in Texas, two more than were allowed the week before.

North Texas reported 64 locations, with 24 in Young County and 15 in Archer County. There were 10 permits from West Central Texas.

Southwest Texas reported 51 permits, with 20 locations in Duval County and 12 in Webb County. There were 31 scattered locations from the Gulf Coast fields.

East Central Texas operators filed locations for 40 new wells, with 19 in Franklin County and 13 in Cooke County.

West Texas reported 38 locations, of which 12 were for wells in Winkler County, and there were 7 from the Panhandle.

Only four locations from the East Texas field were reported, of which three were for wells in Upshur County and the other for a well in Gregg County. This report, however, does not include the large number of special exceptions to Rule 37 which the commission listed late in the week and will materially increase the number of wells for East Texas.

Summary of Wells Completed in the United States
Week Ending July 25, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this Date 1935
Alabama	.....	.....	.....	.....	.....	2	3
Arkansas	3	1	.....	2	34	56	86
California	16	16	.....	.....	4,540	628	457
Colorado	.....	.....	.....	.....	.....	6	6
Illinois	.....	.....	.....	.....	.....	4	9
Indiana	.....	.....	.....	.....	.....	128	99
Kansas	39	32	1	6	26,713	912	764
Kentucky	.....	.....	.....	.....	.....	137	92
Louisiana	24	12	4	8	17,175	589	414
Michigan	12	2	9	1	180	433	249
Mississippi	.....	.....	.....	.....	.....	5	13
Montana	5	3	.....	2	326	79	71
New Mexico	10	10	.....	.....	12,327	323	152
New York	.....	.....	.....	.....	.....	.....	.....
Ohio	32	4	19	9	9	1,078	810
Oklahoma	59	41	2	16	99,891	1,652	1,306
Pennsylvania	.....	.....	.....	.....	.....	.....	74
Texas	247	190	6	51	290,293	6,984	6,653
Utah	.....	.....	.....	.....	.....	.....	.....
West Virginia	.....	.....	.....	.....	.....	385	271
Wyoming	3	2	1	.....	3,400	36	34
Total this week	450	313	42	95	454,888	13,468	11,564
Total last week	452	308	41	103	468,628	.....	.....
Total this year	13,468	8,980	1,280	3,188	13,077,378	.....	.....

Comparison of Permits Granted For New Wells

STATE	Week Ending July 25	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	1	4	55	24	70
California	28	103	566	548	925
Louisiana	12	76	687	472	846
Kansas	38	141	1,031	574	1,204
Michigan	19	70	417	278	749
Oklahoma	59	207	1,361	1,271	2,311
Texas	238	1,107	8,390	6,364	10,800
Total	395	1,708	12,507	9,531	16,964

PRODUCTION DOWN

Oklahoma and California cause decline in output

UNITED STATES crude oil production averaged 2,962,070 barrels daily during the past week, ended July 25, according to the regular estimates compiled by THE OIL WEEKLY. That was 20,555 barrels a day less than in the previous week and 44,870 barrels a day more than the Bureau of Mines recommendation.

The decrease from the previous week's production rate resulted from declines in Oklahoma, Kansas, and California that much more than offset the slight increases occurring in Texas, Louisiana, and New Mexico. Outside of those six leading producing states, production was mostly unchanged.

Oklahoma accounted for the most important decrease among the different states. Its output of 548,220 barrels daily was 10,955 barrels a day lower than the previous week's rate, and the new level was 21,580 barrels a day under the Bureau of Mines recommendation.

California Off

California showed the next largest decrease, averaging 576,000 barrels daily, or 8700 barrels a day less than in the previous week. The state continued, nevertheless, to exceed the federal allocation, the excess amounting to 25,200 barrels daily.

Kansas last week averaged 157,325 barrels daily, or 3925 barrels a day less than in the previous week. The state, like Oklahoma, was under its federal quota, the underproduction being 6875 barrels daily.

Although Texas production was 1900 barrels a day higher than in the previous week, in averaging 1,142,700 barrels daily, the state remained, like Oklahoma and Kansas, under the Bureau of Mines recommendation, showing underproduction of 3800 barrels daily.

Louisiana averaged 231,600 barrels a day last week. That was 2200 barrels a day more than in the previous week and 44,800 barrels daily more than the federal allocation.

New Mexico output was up 300 barrels, having averaged 74,100 barrels daily last week. That was 4700 barrels a day more than the Bureau of Mines recommendation.

GASOLINE PLANT

Tulsa.—Work is to start within a week or ten days on a natural gasoline plant to be located in Section 20-13n-3w, northwestern Oklahoma County to handle the gas from both North and South Britton pools. The plant is being constructed by Del Rey Gasoline Company, and will have a total daily capacity of 35,000,000 cubic feet of gas. A daily gasoline output of 10,000 gallons is expected. The constructing company hopes to market residue gas from the plant in the Oklahoma City field for repressuring depleted producing sands.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in July)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING July 25	July 18
TEXAS—			
Texas Panhandle		61,600	61,200
North Texas		59,300	59,100
West Central Texas		25,700	25,300
West Texas		179,200	182,400
East Central Texas		55,200	54,100
*East Texas Field		427,500	426,400
†South Texas		84,800	84,400
†Texas Gulf Coast		249,400	247,900
*Total Texas	1,146,500	1,142,700	1,140,800
OKLAHOMA—			
Oklahoma City		131,950	149,950
Seminole Area		142,045	141,055
Tatums		3,400	3,100
Lucien		12,250	12,850
Fitts		49,250	45,100
Edmond		11,425	11,700
Others		197,900	195,420
Total Oklahoma	569,800	548,220	559,175
KANSAS—			
Ritz-Canton		6,100	6,200
Voshell		2,900	2,900
Nikkel-Hollow		3,875	3,850
Sedgwick		5,400	5,950
Burrton-Haury		13,450	13,400
Lorraine		8,200	7,850
Oxford		2,900	3,850
Others		114,500	117,250
Total Kansas	164,200	157,325	161,250
LOUISIANA—			
North Louisiana		82,300	79,600
Louisiana Gulf Coast		149,300	149,800
Total Louisiana	186,800	231,600	229,400
ARKANSAS	31,300	29,725	29,800
CALIFORNIA—			
Long Beach		67,000	67,200
Santa Fe Springs		44,000	44,900
Huntington Beach		37,000	37,900
Dominguez		25,000	24,800
Inglewood		12,000	11,700
Ventura Avenue		33,500	35,000
Seal Beach		10,000	10,400
Midway-Sunset		59,500	59,800
Elwood		12,500	12,300
Kettleman Hills		78,000	77,600
Mountain View		26,500	26,000
Playa del Rey		12,300	12,700
Others		158,700	164,400
Total California	550,800	576,000	584,700
MOUNTAIN STATES—			
Wyoming	38,800	37,900	36,500
Montana	13,400	16,800	17,100
Colorado	4,700	4,600	4,800
Total Rocky Mountain States	56,500	59,300	58,400
NEW MEXICO	69,400	74,100	73,800
EASTERN STATES	107,700	109,800	110,100
MICHIGAN	33,800	33,300	35,200
*Total United States	2,917,200	2,962,070	2,982,625
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	.....	15,000	15,000
Grand Total, including surreptitious production	.....	2,977,070	2,997,625

†Coastal section of South Texas is included with Texas Gulf Coast.

Crude Runs to Stills, Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended July 18, 1936

(Figures in thousands of barrels of 42 gallons each as reported to American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
		Reporting				Finished								Reporting		
	Potential Rate	Total	%	Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines	Unfinished in Naphtha Distillates	Total Finished and Unfinished	Gas, Oil & Distillate	Residual Fuel Oil	Total	Potential Rate	Total	%	Daily Average
East Coast	612	612	100.0	513	83.8	6,758	11,083	885	18,726	5,258	5,397	10,655	534	534	100.0	107
Appalachian	154	146	94.8	104	71.2	1,164	1,024	259	2,447	292	209	501	79	78	98.7	26
Ind., Ill., Ky.	462	444	96.1	399	89.9	5,733	2,894	736	9,363	2,602	2,248	4,850	349	348	99.7	128
Okla., Kans., Mo.	453	384	84.8	302	78.6	3,401	2,133	599	6,133	869	2,502	3,371	256	228	89.1	68
Inland Texas	330	160	48.5	115	71.9	995	117	189	1,301	354	1,393	1,747	148	105	70.9	29
Texas Gulf	680	658	96.8	593	90.1	4,662	298	1,974	6,934	3,742	3,760	7,502	399	393	98.5	135
Louisiana Gulf	169	163	96.4	120	73.6	980	455	294	1,729	1,188	1,045	2,233	77	74	96.1	27
North La.,—Ark.	80	72	90.0	43	59.7	166	64	89	319	87	346	433	46	44	95.7	10
Rocky Mountain	97	60	61.9	50	83.3	1,111	.....	97	1,208	187	624	811	46	39	84.8	14
California	852	789	92.6	501	63.5	9,009	2,365	1,141	12,515	.....	.....	72,451	280	280	100.0	74
Reported	.....	3,488	89.7	2,740	78.6	33,979	20,433	6,263	60,675	.....	.....	104,554	.....	2,123	95.9	618
Estimated Unreported	.....	401	....	185	....	3,918	1,271	270	5,459	.....	.....	2,445	.....	91	....	47
*Estimated Total U.S. July 18, 1936	3,889	3,889	....	2,925	....	37,897	21,704	6,533	66,134	.....	.....	106,999	2,214	2,214	....	665
*Estimated Total U.S. July 11, 1936	3,889	3,889	....	2,870	....	38,384	21,711	6,551	66,646	.....	.....	105,790	2,214	2,214	....	675
U.S.B. of M., July, 1935	.....	....	....	2,739	....	†30,550	†19,922	†5,974	†56,446	.....	.....	†108,322	.....	....	....	602

*Bureau of Mines basis currently estimated. †As of July 31, 1935.

PETROLEUM DEMAND

Domestic and export consumption rising

New York.—Total demand for all petroleum products for the first 4 months of 1936 ran 10.42 percent ahead of the corresponding 1935 period, according to the American Petroleum Institute's Department of Statistics. Demand for the first 4 months of 1936 totaled 373,819,000 barrels, compared to 335,750,000 barrels in the same months of 1935.

The data indicate that the gain in export demand slightly exceeded, on a percentage basis, that of domestic demand. Export demand for the first four months of 1936 aggregated 37,971,000 barrels, up 12.96 percent from 1935, while domestic demand came to 335,848,000 barrels, an increase of 10.14 percent.

Increase in motor vehicle use is held to be responsible for the appreciable gain in demand for motor fuel. The figure for the first 4 months is 134,324,000 barrels, up nearly 8 percent from 1935. It is believed that the increase would have been greater except for the unusually severe weather of the past winter which tended to curtail motoring activities to some extent.

In the case of two other products, severe winter weather had the opposite effect, being responsible to a large extent for an increase in the demand for gas oil and distillate fuel of nearly 18 percent, and of about 10 percent for residual fuel oil.

A more intensive utilization of asphalt in street and road paving is seen as the cause for the sharp rise in demand for that product. Of all petroleum products, asphalt showed the greatest increase in demand for the period mentioned, namely 33 percent.

Increased industrial activity and improved economic conditions produced a better demand for lubricants (10.33 percent), kerosene (9.68 percent), and wax (16 percent). Only coke demand suffered a slight, recession, 0.55 percent.

EXPORTS OFF

Los Angeles.—Offshore shipments of petroleum and its products from California during the first six months of 1936 averaged 155,576 barrels daily, a decline of 10,359 barrels daily, or 6.24 percent from the first six months of 1935 average of 165,935 barrels daily, according to figures compiled by the Oil Producers Agency of California, using preliminary estimates covering the month of June.

Gasoline shipments during this six month period of 1936, averaged 48,912 barrels daily, an increase of 2132 barrels daily, or 4.56 percent, over the 1935 average. Crude, fuel oil and other shipments were less during the first six months of 1936 than during same period the previous year, crude accounting for the major portion of the decrease. In 1935, average crude shipments for the first six months were 43,870 barrels daily, compared to 35,693 barrels daily for the same period this year.

HYDROGENATION

Production of gasoline encouraged by Italy

To encourage the production of gasoline from domestic materials, the Italian government recently published a list of concessions that will be granted to firms treating crude petroleum, lignite and other national coals, asphalt and bituminous rock by the hydrogenation process.

Such firms will be permitted to import machinery duty free, will not be subject to the turn-over tax, and will be exempt from paying income taxes on earnings for a period of 10 years from the beginning of operations. The decree also provides for financial assistance through the ministry of corporations.

Topeka, Kansas.—Charters have been approved for Texon Oil & Land Company and Mattison-Wallack & Company, and permission granted for these two concerns to enter into operation in Kansas. Both companies recently have acquired wildcat acreage in Rooks County. Mattison-Wallack & Company plans to start McConnell 1, NEc 34-6s-18w, near Stockton, on the east flank of the Stockton anticline.

Topeka, Kansas.—United Gas & Pipe Line Company has filed a request with the Kansas Corporation Commission to build a gas pipe line to Wakeeney from Ellis as the point of origin.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to July 24, 1936)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Ector, Pecos, W'kler Crane, Upton, Howard and Glasscock	29— .76	2¢	36— .90	1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Talco	* .60			4-15-36
Texas Gulf Coast				
Anahuac-Dickinson	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	* .90			1- 9-36
Saxet	* .90			1- 9-36
Mirando	* .85			1- 9-36
Pettus	*1.25			1- 9-36
Salt Flat	* .97			1-14-36
Darst Creek	* .97			1-14-36
Placedo (Heavy)	*.85			4- -36
Placedo (Light)	*.95			4- -36
Port Lavaca	* .97			
Plymouth	* .90			12-17-35

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Arkansas				
El Dorado (Light) and Rainbow	25— .78	2¢	40— 1.10	1-10-36
El Dorado East Field and Smackover	* .75			1-10-36
North Louisiana	25—$0.78	2¢	40—$1.10	1-10-36
Urania	* .97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa, Cameron Mds.	Below 19— .82	2¢	34— 1.12	1- 9-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.18			1- 9-36
Grass Creek (Light)	*1.18			1- 9-36
Grass Creek (Heavy)	* .58			1- 9-36
Big Muddy	*1.11			1- 9-36
Rock Creek	*1.12			1- 9-36
Sunburst	*1.15			6- 5-36
Lance Creek	* .90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.35			6- 3-36
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.25			1-10-36
Illinois	*1.23			1- 9-36
Princeton	*1.26			1- 9-36
Western Kentucky	*1.23			1- 9-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.42			1-13-36
Michigan				
Central Michigan	*1.42			6-15-36
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut °4
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up °28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up °9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up '5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅛ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.
' Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills Elk Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$.79	$.78	$.79	$.80	$.76	....	....	$.80	$.76	$.76	$.77	$.78	.....	$.70	....	$.70	$.70	$.70	....
15-15.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
16-16.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
17-17.9	.80	.79	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
18-18.9	.80	.79	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	.....	.70	....	.70	70	.70	....
19-19.9	.82	.79	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	74	71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	.....	.....	70	.78	.78	.72	70
21-21.9	.88	.79	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	.....	73	.82	.82	.74	.70
22-22.9	.92	.82	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	.79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	....	1.02	.95	....	.89	.99	.86	.....	.88	1.01	.98	.90	.83
26-26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	....	1.05	.98	....	.92	1.03	.90	.....	.91	1.06	1.02	....	....
27-27.9	1.10	1.05	1.11	1.12	....	1.10	1.03	....	....	1.02	....	.96	1.06	.95	.....	.95	1.10	1.06	....	....
28-28.9	1.14	1.10	1.14	1.15	....	1.14	1.07	....	....	1.06	....	.99	1.10	.99	.....	.99	1.15	1.10	....	....
29-29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	....	....	1.09	....	1.03	1.14	1.03	.....	1.02	1.20	1.14	....	....
30-30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	....	....	....	1.07	1.17	1.08	.....	1.06	1.25	1.18	....	....
31-31.9	....	....	....	1.24	Line	1.24	1.22	Ship	Kettleman Hills			1.11	1.21	1.12	.....	1.09	1.29	....	....	....
32-32.9	....	....	....	1.27	....	1.27	1.27	....				1.14	1.25	1.16	.....	1.13	1.34	....	....	....
33-33.9	....	....	....	....	....	....	1.32	$1.28		1.19		1.18	1.28	1.20	.....	1.17	1.38	....	....	....
34-34.9	....	....	....	....	....	....	1.37	1.32	....	1.23	....	1.22	1.32	1.25	.....	1.20	.....	....	....	....
35-35.9	....	....	....	....	....	....	1.42	1.35	....	1.27	....	1.25	....	1.29	.....	....	.....	....	....	....
36-36.9	....	....	....	....	....	....	1.46	1.39	....	1.31	....	1.29	....	1.33	.....	....	.....	....	....	....
37-37.9	....	....	....	....	....	....	1.51	1.43	....	1.35	....	1.32	....	1.37	.....	....	.....	....	....	....
38-38.9	....	....	....	....	....	....	1.56	....	....	1.39	....	1.36	....	1.42	.....	....	.....	....	....	....
39-39.9	....	....	....	....	....	....	1.61	....	....	1.43	....	1.40	....	.....	.....	....	.....	....	....	....
40-40.9	....	....	....	....	....	....	1.66	....	....	....	....	1.43	....	.....	.....	....	.....	....	....	....

Edited by
WM. V. GROSS, Associate Editor

Shell's Outlook

BEARSTED SUGGESTS BROAD POLICIES FOR FUTURE

SHELL Transport & Trading Company, Ltd., announced recently at its annual stockholders meeting in London a large increase in available profits and that the dividend rate on common stock had been increased from 12½ to 17½ percent, free of tax.

Profits available for distribution at the end of 1935 were £1,200,000, or about $6,000,000 greater than they were at the end of 1934, according to Viscount Bearsted, chairman of the board and one of the managing directors of Shell Transport & Trading Company.

After taking care of directors' fees and other expenses amounting to £45,949, there was available for distribution at the end of 1935, according to the June report, £5,402,929, or about $27,014,645, all of which, with the exception of £381,961 held for reserve and carried forward into 1936, was distributed to shareholders. The lion's share of this, £4,221,238, went to holders of common stock.

Through its holdings over the world, Shell Transport & Trading Company ranks as one of the largest integrated oil companies in the world, taking an active, operating interest in production, land and sea transportation, refining and marketing. It is also one of the strongest companies in the world, as attested by the fact that assets amount to around £49,300,000, whereas sundry creditors on current and other accounts amount to about £63,000.

International Scope

In the company's assets column, listed as property holding in and advances to sundry companies are included £10,000,000 in the Anglo-Saxon Petroleum Company, Ltd., £7,400,000 in Asiatic Petroleum Company, and 120,000,000 guilders in N. V. de Bataafsche Petroleum Maatschappij.

Other important holdings of Shell Transport & Trading Company are in Anglo-Egyptian Oilfields, Astra Romana, S. A., Canadian Eagle Oil Company, Colon Oil Corporation, Mexican Eagle Oil Company (El Aguila), Shell Union Oil Corporation, United British Oilfields of Trinidad, and Venezuelan Oil Concessions.

It is also interested indirectly in British Malayan Petroleum Company, Caribbean Petroleum Company, Ceram Oil Syndicate, Diadema Argentina, S. A., International Hydrogenation Patents Company, Iraq Petroleum Company, Nederlandsch Indische Aardolie Maatschappij, and Sarawak Oilfields.

From the above line-up of affiliates, associates and subsidiaries, Shell Transport & Trading Company, it will be seen, necessarily must keep in intimate contact with economic, industrial, social and political conditions throughout the world. The balance sheet of the corporation, permitting an increase of from 12½ percent in 1934 to 17½ percent in 1935 on the amount disbursed as dividends on common stock, indicates an accurate count of the business world's pulse. For that reason excerpts from observations of the directorate, as expressed in Bearsted's report to stockholders in London recently will have value as a review of past and current conditions and as a basis from which to draw conclusions regarding the future.

Taxation Trend

"A factor limiting the expansion of demand in the United Kingdom," said the report, "is the enormous and ever-growing weight of special taxation borne by the oil industry. Special taxation of petroleum products, which was non-existent in the United Kingdom in the financial year ended March, 1928, amounted to £12,982,000 in the financial year ended March, 1929, and £42,323,000 in the financial year ended March, 1935.—Total taxation imposed on users of petroleum is, of course, much greater than the figures just quoted. This (latter) taxation, for the year ended March, 1935, amounted to £74,000,000, or over 10 percent of the total national revenue. The gross figure paid by all the companies in which the group (Shell) is interested was £89,000,000 (about $445,000,000) in 1935, exclusive of income tax.

"A great deal of nonsense is often talked about the cost of 'imported' oil, but it is worth pointing out that of the price paid by the motorist only 22 percent goes in payment for the imported product, while no less than 44 percent is collected by the government in taxation.

"The import cost includes, of course, the cost of ocean freight, and the existence of this carrying trade in oil, not only to the United Kingdom but to all parts of the world, constitutes an immense asset for the British mercantile marine. Today 14 percent of the total tonnage flying the British flag consists of oil tankers, and oil tankers account for no less than 19 percent of the new tonnage now under construction in British yards.

Stimulating the Revival

"Nothing will stimulate the present industrial revival on better and sounder lines than a progressive road policy. There is still room, or, I would rather say, need for road development on a very wide scale. We need new roads and better roads in place of those existing. A bold policy of road development will provide, directly and indirectly, employment in a variety of forms.

"The motor industry has reached a stage when it requires much greater elbow room in the shape of new roads if it is to continue to expand. Even if the scale of payments made by motor users to the revenue were reduced to a more equitable level, a road development policy would stand on its own feet and be sound national economy. As things stand today petroleum users get a very inadequate return for their annual payment.

Louisiana and California Scored

"It is not an exaggeration to say that prosperity of the oil industry generally throughout the world depends largely on conditions of the industry in the United States. I am very glad, therefore, to report that 1935 saw an improvement in American oil affairs.

"Although the N.R.A. was declared invalid by the Supreme Court, curtailment of crude production was continued by those states which had their own laws for that purpose, and co-operation between most of the oil producing states was secured by the so-called Interstate Compact.

"There are, however, two flaws in this picture. The first is that Louisiana, which is assuming more importance as an oil producer did not subscribe to the compact. This means that although Louisiana has its own curtailment law the administration there could set the

allowable production at a disproportionately high figure and so upset the balance of supply and demand in spite of curtailment efforts of other oil producing states. So far the production in Louisiana has not been seriously out of balance, but the rapid development of the new Rodessa field, which promises to be more prolific than hitherto suspected, constitutes a source of danger which cannot be dismissed.

"The second flaw is that California, one of the largest oil producing states, has no curtailment law. On the suspension of federal curtailment, when the N.R.A. fell through, there followed a period of excessive over-production in California which resulted in crude prices falling more than 50 percent and petrol prices on the Pacific Coast dropping to a level much below cost. Obviously, so long as California curtailment is not properly regulated a state of uncertainty exists.

"In spite of the breakdown in curtailment in California, however, crude oil stocks in the United States decreased during the year by more than 22,000,000 barrels, thanks to the large increase both in the domestic and export trade of the United States.

"It is clear that the situation is not free from difficulty, however. A large potential production in excess of actual requirements still exists, and much depends on the success which attends the continued efforts at curtailment of excessive production.

"Stocks of motor fuel in the United States are uncomfortably high (June, 1936), and unless the season of greatest consumption which has just commenced brings about a substantial reduction in the amount of petrol in storage, it is a potential source of danger to the market."

Japan and Manchuria

Referring to dealings with Japan and the new legislation there requiring oil companies to carry on hand stocks equivalent to six months supply, Bearsted declared:

"These difficulties arise from the fact that the government of Japan has designed its legislation with a view to obtaining from the oil trading community what amounts to a very substantial contribution towards the defense measures which are considered advisable by the government. On the other hand, we, as a trading concern, have found it necessary, not only in Japan but in every other country where we do business, to conduct our affairs strictly on a commercial basis, paying attention to economics and avoiding politics.

"Unfortunately, petroleum, the commodity in which we deal, has become an article in which governments all over the world have become specially interested. In some instances certain governments have arrived at the idea that by bringing pressure to bear on the oil companies, either by legislation or otherwise, it may be possible to put their particular country in a favored position in respect of oil supplies. It is obvious, of course, that such attempts must defeat themselves.

"If legislation in one particular country brings about a situation where that country would appear to obtain some

Who Moved The Furniture?

A blind man can get around in a house with which he is thoroughly familiar. But let someone move the furniture and he's lost.

And that's what happens daily in the oil industry. Changes are continuous. The picture is never twice the same.

An executive is a man who knows his way about under these conditions. He sees clearly. He thinks before he moves. He doesn't make routine decisions because there is no routine in the oil business.

So, again, we take the position that you should check your judgment against facts and figures every time you need a prime mover. The step that was right yesterday may be wrong today. Someone is forever moving the furniture!

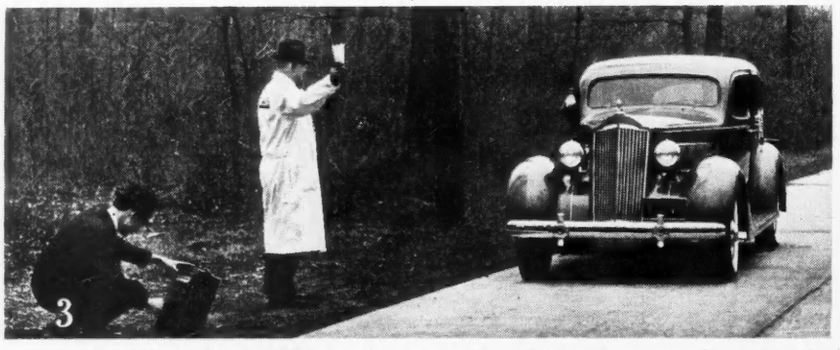
Power Company engineers are glad to cooperate. Your Power Company wants additional business—but only on condition that Purchased Electric Power is what you need.

PURCHASED ELECTRIC POWER

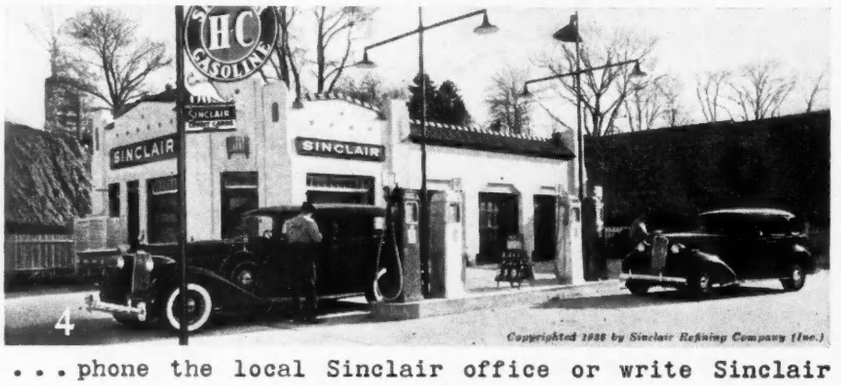
PETROLEUM ELECTRIC POWER CLUB

Glamorous Gloria Swanson, famous for her beautiful clothes, rests after a spring shopping trip in New York. Meanwhile . . .

. . . Sinclair engineers make a road test for her in a 1936 Packard—pitting Sinclair H-C Gasoline against two other well known regular gasolines. H-C gave . . .



. . . enough extra mileage to enable Miss Swanson's chauffeur to get 16 more miles to the tankful. Wouldn't you like to benefit from H-C's leadership? For details . . .



. . . phone the local Sinclair office or write Sinclair Refining Company (Inc.), 630 Fifth Ave., New York, N. Y.

advantage in regard to petroleum, it goes without saying that every other country would follow suit, with the result that these governmental efforts will neutralize one another and that the oil companies will find it quite impossible to comply with the requirements imposed by the various importing countries.

Synthetic Products

"In the past years I have been bold enough to prophesy that the investment in unnecessary refineries, storage facilities, and plants for the manufacture of products in substitution for petroleum products forced upon the industry by pressure of the governments in the long run would prove uneconomic not only to the industry but to the governments themselves. This prophesy is already being fulfilled, and there are signs that it is being realized that you cannot have your cake and eat it as well.

"Prohibition or restriction of imports of petroleum products leads to a serious reduction in government revenues, and governments appear to be realizing that this is not the only factor of loss to be considered, for, in order to foster an industry producing substitutes, large subsidies have to be given in one form or another."

Mexico

After stating that relations between Compania Petroleo de Mexico El Aguila, S.A., seem to be getting healthier, the report says:

"I cannot but welcome this development, seeing that if it continues it is bound to give a measure of encouragement to foreign capital generally. The possibilities of Mexico are so enormous and its requirements of capital for development of its resources so great, that any movement which promises security is very welcome and gives hope that the government's commendable policy of making every effort to improve the standard of living in Mexico will be carried out without the social and industrial disturbances that have been feared in recent years."

ACTIVITY PLANNED

New company may double Lloydminster gas yield

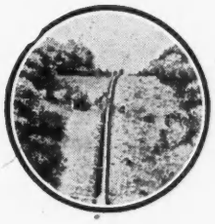
Formation of the Triangular Gas & Oil Company was announced recently by Arthur Kendall, its object being doubling the gas production of Lloydminster field, and development of a gas supply between this field and potential markets east and south of North Battleford, Saskatchewan.

The company will, subject to the Indians surrendering their rights to the department, endeavor to carry on exploratory work on the whole Eagle Hills structure.

In regard to the Lloydminster area, it was declared that 40,000 tons of equipment are being rushed into this field in order to double at least the available supply of gas by fall. Three cars of equipment have aleady arrived at the field and two more are on the way.

Pipe Line Activity

NEW PROJECTS—
CONSTRUCTION PROGRESS



Texas Gas to Detroit

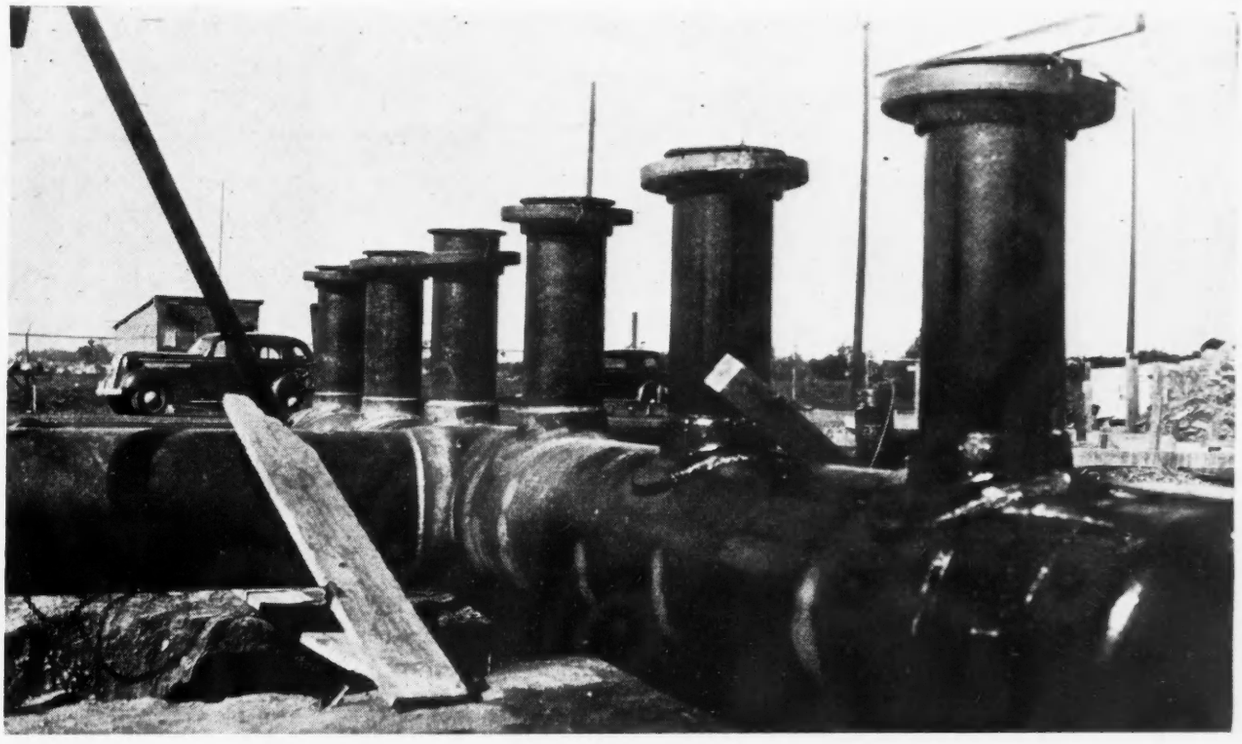
EXTENSION FROM INDIANA COMPLETES 1575-MILE PIPE

The ditch stands about 10 minutes and then caves

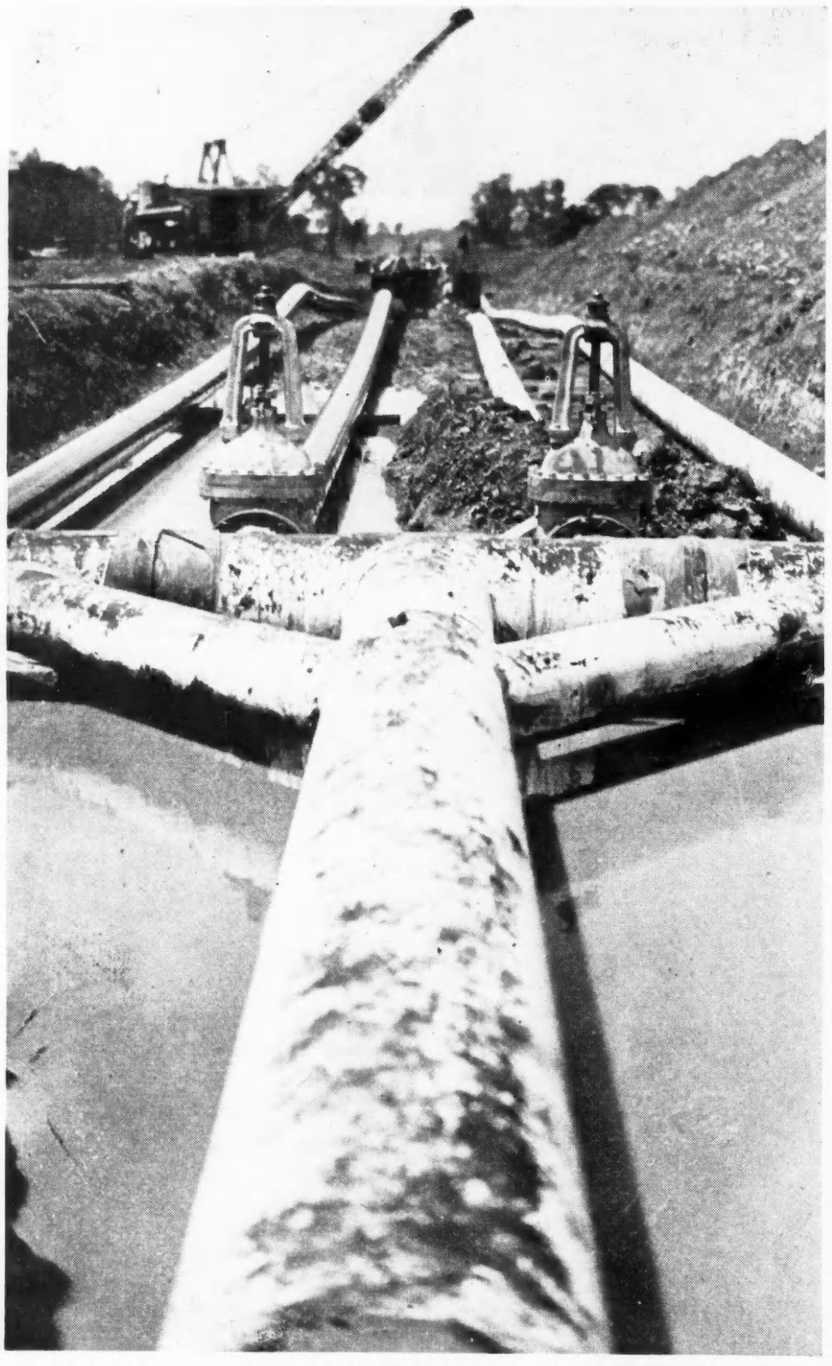
Natural gas from the Hugoton and Texas Panhandle fields now is being brought to Detroit, Michigan's largest city and automobile manufacturing center, through a new 231-mile line extension from Zionsville, Indiana, of Panhandle Eastern Pipe Line Company's system. The extension ties into the Panhandle Eastern system at a point about 12 miles north of Indianapolis, Indiana, with gas moving approximately 1575 miles from the field to Detroit.

The system has a delivery capacity of 125,000,000 cubic feet daily to the Detroit city gates at 125 pounds pressure. The present Detroit market is chiefly domestic and heating and with complete conversion of the city from manufactured gas the daily load is expected to reach 50 million feet daily by fall. This is expected to be more than doubled within two years and with a rich industrial market in Detroit, line capacity may be stepped up later with boosters.

The line was built and will be operated by the Michigan Gas Transmission Corporation, a subsidiary of Columbia Gas & Electric Company, as



Header for meter station where Texas-Oklahoma gas enters Detroit



Header for river crossing—at the Wabash—on Michigan Gas Transmission Corporation's extension gas line to Detroit, Michigan

part of the Panhandle Eastern Pipe Line Company system. Distribution in Detroit will be by the Detroit City Gas Company.

Starting from Zionsville, Indiana, the new transmission line extends north on the general route of Elwood, Marion, Bluffton, Fort Wayne, Indiana; Defiance, Wauseon, Matamora, Ohio; and Monroe, Flatrock and Melvindale, Michigan. The Detroit terminal is at the Rouge Plant of the Detroit City Gas Company.

All 22-inch, 5/16-inch wall thickness, seamless pipe was used throughout for the 231 miles.

Pipe was transported from the factory to the nearest railroad points on the right of way and then moved on location with trucks. Trucks handled from one to six joints depending on conditions of the right of way. Sometimes it was necessary to string one joint at a time with side boom tractor because of deep mud.

Michigan Gas Transmission Corporation with construction offices at Fort Wayne, Indiana, was in general charge of the job. W. S. Bibb Contracting Company, Fort Wayne, Indiana, had the construction contract on 175.5 miles from Zionsville, Indiana, to the Michigan state line; and United Engineers & Construction, Inc., of Monroe, Michigan, had the construction contract on 55.5 miles from the Michigan line north to Detroit.

C. Hobson Dunn, Dallas, Texas, had the sub-contract on stringing the south end, and Midwest Construction Company, McPherson, Kansas, had the subcontract on the north end.

Equipment used in the ditching included six ditchers with 29 drag lines and clam shells used by both contractors. The average ditch dug was 28 inches wide and 52 inches deep, however, on account of deep tile, water sands, and other soil conditions the ditch averages nearly 62 inches for the job. It was frequently necessary to have from one to three clams immediately follow the machine ditchers and in many cases clams worked ahead of the pipe gang due to continued caving.

In some districts it was necessary to build corduroy roads across peat bogs and marshy grounds to provide a support for machinery. Despite troubles encountered from the soil conditions, from 7000 to 10,000 feet of ditch was averaged daily in all but the worst areas.

Arc Welded

H. C. Price, Inc., Bartlesville, Oklahoma, handled the welding for the entire line. The electric arc weld process was used. Chill rings were used in all welds, with river, road and railroad crossing welds and deep ditches reinforced with split welding sleeves.

Soil tests made over the right of way resulted in using 153 miles in Indiana and Ohio, and 33 miles in Michigan of coated pipe. Pipe was given a factory prime, a field prime coat and a hot coat. Forty-five miles of uncoated pipe was put in as soil tests showed neutral.

Each contractor used three complete spreads averaging 300 men each. The line was completed in approximately 60 working days. W. S. Bibb Contracting Company used three construction gangs with No. 1 working from Zionsville to the Salamonie river, 68 miles in 64 days; No. 2 working from Salamonie river to Emmet, Ohio, 59 miles in 59 days; and No. 3 working from Emmet to Michigan state line, 49 miles in 47 days.

United Engineers & Construction, Inc., also used three spreads. No. 1 completed 24 miles from Michigan line to Raisin river in 65 days; No. 2 completed 16 miles from Raisin river to Huron river in 65 days; and No. 3 completed 16 miles from Huron river to Southfield drive in 52 days. Gang No. 2 finished in time to move to the north end and work south for 3½ miles in difficult going and met No. 3 at Southfield highway where the last tie-in was made July 5.

Aerial Survey

An air survey was made of the right of way prior to the start of construction with only a few minor changes made later. The right of way extends across country in almost a straight line from Zionville to Detroit in a southwest to northeast direction.

Contractors found the country as a whole very deceiving. For the most part it is flat, but some of the right of

way that looked best on top proved to be the toughest to lay pipe in. Peat bogs where the ground would tremble 100 feet away if one jumped proved tough to get heavy equipment on. Concrete was used through these bogs for both support and anchorage of the line.

In Michigan sandy soil and quick sand proved a problem. Nearly 22 of the 55.5 miles in Michigan proved sandy and loaded with water. Screw anchors were used in addition to concrete to anchor the line in these places.

Two highways in Michigan were bored 22 feet below the top of the pavement to take care of future underpasses, when these two roads would be put under a railroad.

City Conditions

A five-mile stretch of the Detroit end proved tough for ditching and laying due to the running into sewers, water lines, telephone conduits, etc., which required extra deep ditch and considerable bending.

Highway and railroad crossings were covered both by hand auger and with machines. Telegraph Road, 175 feet through, was buried by machines for 140 feet when trouble forced contractors to tunnel the balance from the opposite side to meet the casing.

Seven multiple river crossings were made: Mississinewa, Wabash and St. Marys rivers in Indiana; Maumee and Tiffin rivers in Ohio, and the Raisin and Huron rivers in Michigan. These were made with four 12-inch lines of 49 and 65-pound seamless pipe welded solid into headers on each side of the river. Split welding sleeves were used to reinforce all of the welds in the river proper, where 65-pound pipe was used. Where rock was encountered, cofferdams were built, water pumped out and excavation and lines laid same as on dry land.

No booster stations were built on the new line, although two station sites were bought for future installations, one at Zionsville, Indiana, and one where the line crosses the Indiana-Ohio state line. A booster station is under construction on the old line near Montezuma, Indiana. There are 11 compression stations between the Texas terminal and Zionsville, Indiana.

The line was tested to 450 pounds by dead weight and shut-in method. Officials of Michigan Gas Transmission Company reported the line one of the strongest ever built.

J. E. Reinbold is general superintendent of Panhandle Eastern Pipe Line Company, D. K. Stephens superintendent of construction, is divisional superintendent; L. E. Ingham was assistant superintendent of construction; W. E. Ferguson had charge of right of way and survey. Chief inspectors for Michigan Gas Transmission Corporation were L. C. Overmiller, Fred Townsend and J. L. Cummings.

The Michigan Gas Transmission line was the second major pipe line job in Michigan in the past 12 months. Michigan-Toledo Pipe Line Company, subsidiary of Standard Oil Company of Ohio, completed a 150 mile 8-inch oil line from Crystal, Michigan, to Toledo, Ohio, in March.

DEFY GAS LIMIT

Grand Rapids will get unmixed natural supply

Mt. Pleasant, Mich. — In a formal statement, officials of the Grand Rapids Light Gas Company, subsidiary of American Light & Traction Company, announced they had started to service the city of Grand Rapids with 100 percent natural gas in defiance to a public utilities commission order.

Early this year the utilities commission granted a permit to the gas company to construct and operate a gas transmission line from the Tri-township field to Grand Rapids (50 miles) but specified that only enough gas for 50 percent of the Grand Rapids requirements could be withdrawn from the gas field. In short, a 50-50 mix was specified. A month ago the commission rejected the gas company's plea to modify the original order to permit straight natural gas.

Glenn R. Chamberlain, general manager of the gas company, said the company holds the commission's ruling as arbitrary and without constitutional authority.

The utilities commission was to meet at an early date to determine its course of action. When the commission rejected the Grand Rapids plea for 100 percent natural gas, the recent United States Bureau of Mines survey here was cited to support their contention of inadequate reserves to warrant a greater market

They're mighty convenient for determining the best rates of production!

KEROTEST DROP FORGED ADJUSTABLE CONTROL CHOKES

YOU will find Kerotest Control Chokes especially good for high gas ration wells and for straight gas wells. When flowing "with the needle," the discharge nipple is a positive opening and will reduce freezing in your lines. When flowed against the needle the flared discharge is operative.

Calibrations are read to the nearest convenient fraction of an inch, and while it is difficult to calibrate valves to exact orifices, Kerotest Chokes are accurate in determining the best rates of production as well as for determining the proper sized positive choke for exact flow control. Write for descriptive literature.

KEROTEST MANUFACTURING CO. . . Pittsburgh, Pa.

Edge Development

OKLAHOMA CITY INTEREST CENTERS ON EXTENSIONS

WEEKLY STAFF REPORT

Oklahoma City.—Sinclair Prairie Oil Company's Hussman 1-B, NEc SW 21-10n-2w, Moore pool of Cleveland County, which drilled the second Wilcox sand and developed water after finding oil saturation, is waiting on cement to set before further testing. An unusual situation exists in the water encountered in this test. It has not been determined whether the water is from the bottom of the hole at 7354 feet, or from nearer the top of the sand, as some conditions indicate. A liner 109 feet in length was run in Hussman 1-B and set on bottom with 25 sacks of cement. The lower five feet of the liner is perforated.

Rice 1, of the same operators, in NEc NE 28-10-2w, Moore pool, obtained a higher potential of 19,128 barrels of oil, flow being accompanied by 48,000,000 cubic feet of gas. This potential is an increase of 4514 barrels as compared with the last gauge.

The same operator's Peaches 1, NE SE NW 21-10-2w, in the same pool, is drilling deeper after testing the Wilcox at 7279 feet July 24, when only a small show was found after bailing down. This test topped the second Wilcox at 7295 feet, and a core was obtained between 7293-97 feet showing oil and gas. Past indications would give operators about 10 feet of sand between 7297 and the water level, and as the week ended this section was being cored. Location of Peaches 1 is one quarter mile northwest of Franklin 1, the Moore discovery well.

Development in North Oklahoma City field has centered in extension or edge wells. Skelly Oil Company's McMcClanahan 1, SE NW SE 15-12-3w, Block 8 of the North View Addition, topped the Wilcox at 6445 feet and was drilled to 6481 feet. A potential test rated the well 503 barrels per day. This completion is northeast of other wells completed since McClanahan 1 was spudded, and may be considered a minor extension. Producers offsetting the location toward the heart of the North Oklahoma City play have shown for a small water production with the oil, although water is not indicated in the new producer.

Of importance in limiting possible extension of Schooland sand production in the Mansion area, is British American Oil Producing Company's Tuxedo 1. In this well the Wilcox was topped at 6353 feet, operators continuing to 6499 feet where 8-inch casing was set. At 6529 feet in Schooland Sand, the well developed a hole full of water. The test is to be plugged back to the second Wilcox where casing will be perforated for a test of the Wilcox. Location of this well is in C SE NW NW, near Northeast Twenty-First Street and Everest Avenue.

In the area just south of Twenty-Third Street, British American Oil Producing Company's Gast 2, while drilling in Schooland Sand at 6467 feet, flowed 53 barrels of oil per hour. Gast 3, an offset, was drilling in late in the week.

A second potential test of Sunray Oil Company and Phillips Petroleum Company's State 5, directly west of the Statehouse, gave the well a rating of 7878 barrels, which is a gain of 978 barrels over the previous potential.

Northwest of the Mansion area and south of South Britton production, O'Shaughnessy et al's Berlowitz 1, SE SW NE 9-12-3w, a wildcat test bottomed at 6636 feet in dolomite, is waiting for cement to set before testing. Production possibilities were indicated at 6528 feet in the dolomite, and a show was obtained in Viola lime topped at 6510 feet. Although this test is checked low with other wells in adjacent areas, its proximity to large production is upholding interest in the test.

Carter Oil Company's Walker 2, SW NE NE 33-17-4w, in the Crescent pool of Logan County, and Walker 3, NW NE NE 33-17-4w, will be early completions. Walker 2 is in the pay and completing an underreaming job. Walker 2 is below 6000 feet, waiting on cement to set around 8-inch at 6017 feet.

Two new starts for Cresent pool have been announced. Continental Oil Company is starting McConnell 4, NE SW SE 28-17-4w, and Carter Oil Company has announced location for Miller 3, SE NW SE 28-17-4w.

Wildcat Produces

SEMINOLE COUNTY TEST OPENS ANOTHER FIELD

Tulsa.—Climaxing wildcat activities in Oklahoma last week was the opening of another producing area in Seminole County by Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Klabzuba 1, SWc SE 35-11n-5e, between the Stout and Keokuk pools of Seminole County. From the first Wilcox sand topped at 4622 feet, the well swabbed 385 barrels of oil in 15 hours July 19 and later swabbed 315 barrels in 17 hours. The well is northeast of the Stout area where Hunton lime production has been disappointing.

In the northern stringer of the Burbank field, Osage County, Skelly Oil Company's Smith 4, NW NE NW 26-26n-6e, flowed 1270 barrels of oil in 24 hours from Burbank sand at 2840 to 2918 feet. Shot with 150 quarts at 2869 to 2918 feet, the well cleaned itself and produced 698 barrels of oil and 2,500,000 cubic feet of gas the first 6 hours.

Centering attention on Fitts field of Pontotoc County was E. H. Moore et al's Patrick 2-A, NE NW NE 31-2n-7e, which came in July 22 to extend the Wilcox zone slightly to the east. The well topped the Wilcox-McLish sand at 4326 to 4375 feet and made between 700 and 800 barrels of oil an hour. Dense lime was topped at 4265 feet and drilled to 4315 feet. The first hour it made 538 barrels of oil. Deepened to 4375 feet, the well flowed 871 barrels of oil the first hour and made 7,000,000 cubic feet of gas.

In the proven area of Fitts field, the same interests' Patrick 1-A, NWc NE 31-2-7e, was drilling at 3360 feet in the Hunton lime, while Showers 16-A, NEc NW 29-2n-7e, and Mack 9, NE SE SE 28-2n-7e, were drilling ahead below 3000 and 4000 feet.

In southwestern Okfuskee County, Ark Royalty Company's Palmer 1, 19-10n-9e, is standing full of oil and has made several good flows from 1805 feet.

Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Yahola 1, SWc NE 31-9n-9e, southwest of the old Papoose pool of Hughes County, on a 3-hour test from Misener sand at 4028 to 4051 feet made 877 barrrels of oil and 8,250,000 cubic feet of gas and was shut in for tankage. A new start in the same area is Blackwell Oil & Gas Company's C. Dolton 3, NE SE NE 36-10n-8e, in the Okfuskee County extension of Olympic pool.

Mid-Continent Petroleum Corporation's Hillman 1, SW SE NE 29-13n-6e, just west of the Wilzetta pool of Lincoln County, topped Wilcox sand at 4456 feet between 4457 to 4460 feet it recovered a full core of sand, the last 6 inches of which was well saturated with heavy black oil.

A disappointment for the Jesse pool of Pontotoc County was the Continental Oil Company's Simpson 3, NW SW NE 12-1n-7e, which had a hole full of water at 4741 feet after topping the Wilcox sand at 4739 feet. Plugged back to 4711 feet, the well was opened for 6 hours,

but showed nothing but mud and water. After setting 2½-inch tubing at 4467 feet, the well was shut in and may be acidized.

North of Cushing, in Payne County, Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Pratt 1, SEc 29-19n-5e, was put on the pump and made 86 barrels of oil and 63 barrels of water in 21 hours through 2½-inch tubing. Production is from Wilcox sand between 3715 and 3733 feet. Depth is 3802 feet.

Another test which is exciting some interest but has not as yet made any favorable showing is Carter Oil Company's James 1, SW NW SW 35-1s-8e in southwestern Coal County. Viola lime was topped at 2855 feet and cored from 3142 to 3147 feet with no recovery. A second core taken between 3147 and 3150 feet also had no recovery. Drilling is being continued.

Other tests in the area are Continental Oil Company's King 1, NE SW NE 26-1n-8e, which is running higher than the other wells in the area and was drilling in shale, and Sinclair Prairie Oil Company's Culver 1, NEc SW 16-1n-8e is fishing for drill collar at 3072 feet.

Numerous locations were made and several wells started in the Tulsa district during the week. Conoquetessing Oil & Gas Company's Meyers 1, a new location in SEc SW 6-13n-13e, in Okmulgee County, was drilling. Sinclair Prairie Oil Company's Tilda Carlina 3, NE NW SW 31-10n-9e, in the extension of Olympic pool of Okfuskee County, started drilling July 22. Carter Oil Company's Robert Hully 1, CE½ NEc 15-10n-6e, Keokuk pool, Seminole County, was digging cellar. Gulf Oil Corporation's K. George 2, SE NW NW 4-19n-5e, was a location in the old Garr pool of northeastern Payne County. In the Burbank field, Osage County, Lewis Production Company's 5 is a location in SW NE SW 23-26n-6e.

The second wildcat test for Johnston County is Patton et al's McCurmense, SWc NE 16-1s-6e, which is moving in machinery.

In the Keystone area of Pawnee County, location was made for G. A. Goins et al's William Bolton 1, NW SE SE 23-20n-9e. Sinclair Prairie Oil Company's B. B. Jones 9, CSE NW 4-17n-7e, in northeastern Creek County, was spudded. In the Mannford district of the same county, M. W. Mosier et al's B. A. Holcomb 1, SE SW NE 19-18n-8e, was a location.

Few failures were noted during the week. In the North Searight pool of Seminole County, Carter Oil Company's Pryor 1, CE½ NW NW 18-10n-6e, was abandoned. A saturated core was recovered from 4590 to 4610 feet, but operators found salt water after drilling plugs at 4690 feet and attempts to shut off failed. The semi-wildcat east of Sasakwa, in Seminole County, J. E. Crosbie Incorporated's Casey 1, CNL NE 30-6n-8e, is being abandoned after a drill stem test at 4175 feet. Twin State Oil Company's Hamm 1, NW SE SW 24-10n-7e, west of Cromwell and east of Keokuk in Seminole County, was to be plugged after finding a salt water sand at 4400 feet.

Phillips Petroleum Company's Fred Lookout 1, SEc NW 9-24-7e, extended Bartlesville sand production of the Naval pool of Osage County two locations south and west of present production. The well topped the Bartlesville at 2610 feet and was drilled to 2645 feet, still in the sand with oil showing. After being shot with 60 quarts, the well flowed 192 barrels by heads in 13 hours. Finding production in this well forces an offset by Lewis Production Company and The Texas Company in the NEc SW 9-24-7e, in the same pool.

FITTS PRORATION

Operators study merits of potential tests

Tulsa. — Twenty-one representatives of companies operating in Fitts pool of Pontotoc County met here July 22 to consider the relative merits of potential tests for that area, and to study data obtained through co-operative checks made on key wells. A means of potential based on accumulative production, the use of bottom hole pressure decline, potential through 2½-inch tubing, and the application of a productivity index factor, were manners of potential taking discussed at some length. It was agreed that information at hand was not sufficiently complete to allow any method being used as a determinate of future operation. In order to further study data, and to attempt to formulate an advance in potential taking, representatives voted to continue the permitted production rate based upon a progressive decline; and to refer to an engineering body the taking of productivity index factors through a cross-section of the field.

From information presented it was determined that the 3 percent per month decline factor, under which the wells are being produced under orders of the Oklahoma Corporation Commission, is within a decimal point of an average well's productive capacity. Bottom hole pressures obtained on key wells also show a decline curve closely corresponding with past potentials. A factor based upon accumulative production, and obtained through a study of productive characteristics of nearly 200 wells, was in some cases considered to be entirely out of line with an individual well's ability to produce, although a general curve based on the obtained factors followed field production to a marked degree.

The investigation of applying a productivity index factor to the field will be started immediately. Expense is to be borne by operating company on a per-well basis. In order to allow sufficient time for a comprehensive investigation into the possibilities of the index, it was agreed to extend the present productive decline to January 1, 1937, or to an intermediate date provided that results are available.

This investigation into potential tests and the findings of the engineers making the productivity index survey will be closely followed by operating companies other than those interested in Fitts pool. Briefly, the index is an adaptation of the back pressure method used in some fields to gauge gas wells. In such cases, the well is produced directly into a line and the produced volume is measured through an orifice meter. The constants of line pressure, the production decline as applied against operating pressure, and the working pressure drop form the basis used to compute the capacity of the well. The index graphically records the relationship between a well's ability to produce at various flow constants, production being measured volumetrically. In the Fitts area, a number of conditions prevalent will tend to give a complete picture of the possibility of using a productivity index factor as a means of determining potential ratings. In some sections of the field, the gas/oil ratio is variable, in others considerable water is being produced with the oil, and in edge wells, it has been necessary to place pumping equipment in operation.

Watch Deep Test

FOX POOL PROJECT HEADED FOR VIOLA LIME HORIZON

Ardmore.—With either failures or small production shows at uneconomic depths featuring southwest Oklahoma, attention of operators has turned to Gulf Oil Corporation's Johnson 8, a deep test in the Fox pool of Carter County, which is drilling lime and shells below 6471 feet.

First production in this area, situated in what is termed the Ardmore Basin, was found by Gypsy Oil Company at 2033 feet. This test produced 604 barrels of oil on its initial test from sands of Permian age.

As a result of geophysical work, Carter Oil Company's Ruth Williams 1, SW NE SW 27-2s-3w, was started as a test to the Ordovician. The first marker encountered was the Viola lime, topped at approximately 7006 feet. Although this was the depth primarily agreed upon, an oil show in this formation encouraged deeper drilling, which was carried to 8118 feet, where tools were stuck. A load of acid used to free the fish brought in the well as the tools were being raised. Production was estimated at between 10,000 and 15,000 barrels per day. However, in attempting to clear the hole, the production was killed, the tools were again lost at 8088 feet, and the well was completed as a producer for much less than was indicated after the acid treatment.

Deeper pay horizons of this area have not been correlated to other sectors, and any well below 5000 feet is drilling in wildcat strata. First major productive possibility of Johnson 8 is

considered to be the Viola lime, which will be encountered at about the depth found in Williams 1.

Carter Oil Company's Voorhees 1, C SE SW 34-5s-2w, western Carter County, a deep test wildcat, is drilling below 7485 feet without any show. Provided that this test is to be carried to the Wilcox, or a corresponding member of the Ordovician, the well is nearing important depth. In the same county, two locations were staked last week. Samedan Oil Company has made location for Sexton 1, NW NE SE 6-2s-2w, in the Wildcat Jim area. C. P. Williams et al's Brady 2, SE NE SW 19-1s-2w, is a location in Tatums area. Both of these wells are in proven fields.

Gulf Oil Corporation's McWilliams 1, NW SW 15-3s-17w, Tillman County wildcat, is shut down for repairs to machinery after sticking a drill stem at 5029 feet. The same operator's Wearmouth 1, SE NW SE 31-1s-18w, in the northwestern part of the same county, is working with 590 feet of lost drill pipe. Hole is bottomed at 5127 feet.

Superior Oil Corporation and Helmerick & Payne Inc.'s Taliaferro 1, NW SE SW 26-5s-5e, Marshall County wildcat, is drilling below 3100 feet. No indications considered encouraging have been drilled. Carter Oil Company's Davidson 1, CNW SW 21-9n-25w, Beckham County test located on a surface geological structure west of Sayre pool, drilled shale from 5760 to 5770 feet and is drilling deeper.

A new location has been announced by V. B. Likins, for Huff 1, NE SE SE 9-5n-16w, Gotebo pool, Kiowa County.

Sinclair Prairie Oil Company's Stockton 1, SEc SW 26-6s-2w, Love County's deep wildcat test that has been shut down waiting on special drill pipe, is still inactive, although operators expect to resume drilling immediately. In the same county, Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Westheimer 1, SW SE SW 27-6s-2e, near Marietta ,is testing various strata without encouraging results.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Louis Sykes, Brady 1, ne se sw 19-1s-20w	¶25	1320
Samedan Oil, Fitzgerald 1, ne ne ne 8-2s-2w	lcn.	abd.
CREEK COUNTY—		
Helvie-Stout, Land 4-A, cse se 2-18n-11e	12	1521
Sinclair Prairie, Roberts 5, nw sw sw 8-16n-9e	*	2969
Jones 20, ne sw nw 3-17n-7e (otd 2510)	15	2572
C. L. Jackson, Hays 4, ce½ sw 13-17n-8e	15	2772
Pippis et al, Kumrie 1-A, se sw sw 23-17n-9e	*	1325
Big Four Pet., Evans 1-B, nw nw se 31-19n-9e	*	3098
JACKSON COUNTY—		
Gulf Oil, Johnson 2, se se se 11-1n-20w	321	1534
Shirley 3, nw nw ne 6-1s-19w	487	2618
Jackman, Fee 1, sw sw sw 27-1s-24w	*	2685
KAY COUNTY—		
Shell et al, Lawrence 3, ne se nw 5-28n-1w (otd 2385)	221	2795
McINTOSH COUNTY—		
Wigton et al, Koch 1, nw se ne 15-11n-15e	*	3420
OKFUSKEE COUNTY—		
Liley, Thompson 1-A, csw se 17-14n-15e	*	1680
Reynolds, Throckmorton 1, se se sw 29-15n-13e	*	1440
Klingensmith, Farr 11-A, csl n½ sw nw 35-16n-11e	25	2783
Gulf Oil, Cohee 1, sw sw nw 31-10n-9e	576	1762
Morton et al, Grayson 5, nw se se 23-11n-11e	*	2450
Pure Oil, Rentie 1, se nw ne 26-12n-11e (otd 2881) (pb 3621)	90	3629
OKLAHOMA COUNTY—		
Warsaki & Gibbons, Oklahoma Heights 1, ne sw se 15-12n-3w	lcn.	abd.
Hall & Briscoe, Marion 1, se sw se 22-12n-3w	¶25-18,516	6470
Skelly, Capitol Park 1, se ne sw 22-12n-3w	¶7-6516	6484
Phillips Pet., Glenn Ellyn 2, se nw nw 26-12n-3w	6623	6415
Marathon Oil, Messer 2, nw sw sw 32-14n-3w	¶5-7748	6702
OKMULGEE COUNTY—		
Kashoma, Scott 2, cwl sw ne 23-13n-14e (otd 1287)	25	1728
Quinlan et al, Adams 1-A, cse ne 8-14n-12e	*	2726
OSAGE COUNTY—		
Simons 6, se nw nw 2-21n-8e	15	2511
Grimes & Gillespie, 5, nw nw sw 30-21n-12e (otd 2027)	*	2060
Peters Pet. & Sinclair Prairie, Sawyer 12, nw sw ne 24-24n-7e (otd 712)	5	2473
Osage Gas Prod., 398, ne sw sw 29-28n-11e	*	861
PAWNEE COUNTY—		
Privett Drlg., Kline 3, nw se se 10-20n-6e	23	3170
PONTOTOC COUNTY—		
Sunray et al, Shumard 1, ne sw se 2-1n-7e	¶1¾-1272	4541
Continental, McCarty 3, cse nw 12-1n-7e	¶2¼-4349	4732
Simpson 2, se sw ne 12-1n-7e (pb 4705)	¶¾-1004	5407
Amerada, Norris 1, nw se se 26-2n-6e (pb 4273)	2680	4395
Fleetborn, Morrin 4, sw sw se 20-2n-7e	¶1¼-2964	4315
Amerada, Woolley 1, sw se se 21-2n-7e	¶3-3159	4350
Blackstock, Danials 2, se se sw 21-2n-7e	¶2-2526	4351
Danials 4, se se sw 21-2n-7e (pb 3815)	3404	4478
Magnolia, Burris "A" 7, se sw nw 27-2n-7e	2916	3577
Metroplitan Life 14, se nw ne 27-2n-7e	¶2½-7368	3319
Sinclair Prairie, Burris 8, sw nw nw 27-2n-7e	10,944	3470
Magnolia, Burris "B" 6, nw se ne 28-2n-7e	¶1½-1512	3578
Burris "B" 7, se ne ne 28-2n-7e	¶3½-3792	3465
Moore, Craddock 8-A, se sw sw 29-2n-7e	¶1¼-4265	4425
Atkins 2-A, ne nw nw 32-2n-7e	¶1¾-4696	4412
Boyle, Crest 1, sw se sw 30-5n-4e (pb 169)	223	2007
Sunray, Shields 5, sw ne se 33-5n-8e	¶3½	1076
POTTAWATOMIE COUNTY—		
Phillips Pet., Duff 3, sw nw sw 10-7n-4e (pb 3630)	128	3975
Mulberry Oil, Sigmund 1, ne ne nw 5-10n-4e	¶7-100	4477
SEMINOLE COUNTY—		
The Texas Co., Janey 1, se se sw 11-7n-6e	540	4285
S. Carliner 2, sw sw se 27-8n-8e	*	4092
Magnolia, Dindy 2, se se nw 11-7n-6e (otd 4257) (pb 4220)	45	4400
Champlin Ref. Wolf 2, sw nw nw 32-7n-8e (pb 3352)	*	4223
Fleetborn, Chapman 1, ne nw nw 34-8n-8e (pb 3940)	*	4260
Amerada et al, Newell 1, se se nw 3-10n-5e (pb 4409)	295	4450
Carter et al, Harber 2, cel sw se 2-10n-6e	456	4176
STEPHENS COUNTY—		
George Page, Payne (Fee) 7, sw ne nw 28-2s-7w	15	1677
TULSA COUNTY—		
Crews & Armstrong, Squire 3, cnw se 8-16n-14e (pb 1517)	5	2460
J. M. Gril, Big Pond 1, ne se sw 11-18n-12e	*	2180
Mechling, Luster 4, ne sw ne 14-19n-13e	*	1324

*Failures; †Junked; ¶Million cu. ft. gas.

FAILURES

Important "proof" given by six recent tests

Tulsa.—In the language of the layman the word "failure" has but one significance—the lack of having attained a certain definite goal. But in the idiom of the oil man, it has another meaning—proof. This fact was definitely shown in Oklahoma during the past three weeks, when six wells were failures and one was abandoned, either proving or disproving the geology which had been set up on the regions.

Outstanding in the list is Sinclair Prairie Oil Company et al's Hussman 1-B, NEc SW 21-10n-2w, in the Moore pool of Cleveland County, proving the narrow structure of the field which had been thoroughly geologized. This test, located less than a half-mile north of the same interest's Franklin 1, and a quarter-mile west of the discovery well of the field, had 21 feet of Wilcox sand, topped at 7333 feet, and had good saturation throughout the last 10 feet, but when bailed, ran into salt water, thus proving the western limits of the field.

In the Pauls Valley area of Garvin County, the third test to be drilled in the region looked to be a disappointment. The well, McElreath & Suggett's Lassater 1, SEc SW 2-2n-1w, topped the Wilcox sand at 4908 feet, which was white and dry to 4935 feet. It is continuing to drill, however, at 4975 feet, nearing the contract depth of 5000 feet.

In Carter County, Louis Sykes' Byrd 4, NW SW SW 4-2s-2w, on the east edge of the Wildcat Jim-Ed Cox pools, was abandoned at 1524 feet. In Garfield County, Sherry et al's Hoken 1, NWc SW 32-20n-4w, was abandoned at 7054 feet.

In the prolific Oklahoma City oil field, abandonments and failures are almost too numerous to mention. Following the failure of Anderson-Pritchard Oil Company's Profitt 1, Block 2, Lot 29, Oklahoma Heights Addition, there were 12 abandonments for the week ending June 29, and the majority of these were only locations or derricks. Operators seemingly accepted the failure of Profitt 1 as proof that it would be futile to carry ahead with tests in the immediate area.

Many tests which are still drilling, and most of which are located in the southern part of the state, are passing through what should normally be pay strata with nothing showing. In south Carter County, Carter Oil Company Walker-Voorhees 1, CSE SW 34-5s-2w, is continuing to drill below 7000 feet in an area where the pay is usually found about 4000 feet down. The outlook is discouraging in view of the fact that the well is located in the line of a direct southeast extension for the Healdton field of Carter County.

To the northeast, in Hughes County, Phillips Petroleum Company's Eberle 1, NEc SW 12-5n-9e, set 7-inch casing at 5679 feet, but when the plugs were drilled water broke into the well the third time. This well, which may be drilled deeper if proven productive, will definitely extend the Allen pool of Pontotoc County, eastward into Hughes County.

Another "proof" well which may extend the Jesse pool of Pontotoc County is Carter Oil Company's James 1, SW NW SW 35-1s-8e, in a direct line with

the northwest-southeast trend of Jesse, which had a good show of oil at 3135 feet. But in the same area, Sinclair Prairie Oil Company's Culver 1, NEc SW 16-1n-8e, was drilling ahead below 3035 feet with no show, and Continental Oil Company's King 1, NE SW NE 26-1n-8e, was still in the Wapanucka lime at 2077 feet with no show.

Not every well intended to prove further production of an area is located on the outskirts of a field. Gulf Oil Corporation's Johnson 8, CSW SW 28-2s-3w, in the heart of the Fox field of Carter County, and surrounded by producing wells, is still seeking pay formations at below 6445 feet in the Pennsylvanian.

Five New Fields

KANSAS STRIKES SCATTERED THROUGH FIVE COUNTIES

WEEKLY STAFF REPORT

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Davidson et al, Birzer 1, sw se sw 22-17s-12w	*	3430
Sylward et al, Wissman 1, nw nw nw 31-18s-15w	¶3-115	3598
Wakefield & Johnson, Bumm 1, sw sw ne 22-19s-12w	*	3550
Magnolia, Meda Steckel 6, ne se nw 1-20s-11w	241	3305
Gulf Oil, Zahorsky 2, nw nw se 14-20s-11w	1452	3299
I. T. I. O., Burcheit 1, se se nw 14-20s-11w (pb 3326)	*	3355
BUTLER COUNTY—		
Vickers Pet., Moore 3, cn½ sw 36-24s-3e	170	2724
COWLEY COUNTY—		
Lloyd, Frost & Study et al, McKinley 2, sw nw ne 33-31s-3e	1913	3315
Saco Oil, Sanders "B" 1, se nw ne 31-31s-6e	*	3008
McKnabb, Community 1, cne nw 14-34s-3e	¶7	2674
ELLIS COUNTY—		
Margay Oil, Bemis "A" 5, sw sw se 16-11s-17w	664	3362
ELLSWORTH COUNTY—		
Smith-Ash, Wilkins 1-B, nw sw sw 18-17s-9w	73	3288
Carter et al, Molhagen 1, cnl nw 35-17s-9w	1109	3182
GRAHAM COUNTY—		
Vickers & Phillips, Hutton 1, ne ne se 29-8s-22w	*	3870
McPHERSON COUNTY—		
Marathon Oil, Whitewright 3, cn½ s½ sw 30-19s-1w	258	2977
Continental, Hetzke "A" 1, se sw se 20-21s-1w	1645	3310
Marathon Oil, Decker 2, nw se se 20-21s-1w	2087	3310
Continental et al, Garber 3, ne se nw 32-21s-1w	1221	3320
RENO COUNTY—		
Marathon, Priddle 3 (Acct. 2), ne se se 17-24s-4w	¶6-709	3381
Darby et al, Beltz 1, se se sw 4-26s-4w	1604	4107
RICE COUNTY—		
Empire, Jansen 3, nw ne nw 3-18s-8w	435	3260
Continental et al, Ainsworth 3, ne se ne 25-18s-8w	1823	3160
Kimple 3, ne se nw 25-18s-8w	1548	3195
Stanolind, Mitchell 5, ne nw sw 32-19s-10w (otd 3320) (pb 3338)	819	3343
Gulf Oil, Malone 3, sw nw ne 18-20s-9w	319	3332
ROOKS COUNTY—		
Tree Oil et al, Richards 1, sw sw sw 31-10s-18w	lcn.	abd.
RUSSELL COUNTY—		
Empire, Mai "B" 1, se se sw 28-13s-14w	243	3343
The Texas Co., L. J. Ginther 2, ne se nw 19-12s-15w	430	3022
Empire, Boxberger 1, sw sw nw 32-13s-14w	446	3312
Hartman & Blair, Sullivan 3, nw ne se 2-14s-15w	453	3324
Central Pet., Witt 5, ne se se 3-14s-15w	1940	3287
Darby Pet., Dumler 5, se nw nw 11-14s-15w	lcn.	abd.
Stanolind, Resener 1, se se se 9-15s-13w	500	3340
Southern Oil, Sellens 2, se sw sw 29-15s-13w	1726	3306
Sellens 3, nw sw sw 29-15s-13w	955	3304

Wichita.—Of prime interest among oil men in Kansas during the past week was the opening of another new pool, 16 miles north of Hays in Ellis County by Kansas Oil Development Corporation and Creekmore Oil Company's Haller 1, SEc NW 10-11s-18w. Topeka lime was topped at 2915 feet, and after drilling ahead operators got 6 bailers of water from 3030 to 3033 feet, after which the water was exhausted. The hole then filled 1600 feet with oil in 44 hours, which was reported to have tested 44 gravity, an usually high test for this formation. The Haller 1 is 4½ miles west of the Bemis pool and 3½ miles north of Lario Oil & Gas Company's Walters 1, a wildcat producer recently completed for 1159 barrels of oil from the Topeka lime.

Just south of the Chase pool of Rice County, Mid-Continent Petroleum Corporation's Hartle 7, NE SE NW 15-20s-9w, topped Siliceous lime at 3220 to 3229 feet, and at the completion of a 60-day retest, produced 2163 barrels of oil in excess of the initial test.

Pools

Reno County received its tenth pool during the past week when Seigrist & Miller's Love 1, SWc SE 13-24s-8w, 14 miles southwest of Hutchinson, made 443 barrels of oil in a 24-hour test from 3551 feet in the Lansing lime. Love 1 has been designated as the discovery well of Love pool, and is north of production in the Abbyville pool of Reno County.

Southwest of Russell, Russell County, Lario Oil & Gas Company's Steinert 1, NWc SW 21-15s-15w, swabbed at the rate of 7½ barrels of oil an hour from Lansing lime after being deepened to 3097 feet. Two increases in production were had, the first from between 3088 to 3090 feet, and the second from between 3095 to 3097 feet. Nearest production is in the Donovan pool to the northeast.

Some encouragement for new production southwest of Great Bend in the Hiss pool of Barton County came when The Texas Company's McGreevy 1, SWc SE 30-20s-13w, sprayed 40 barrels of oil and an undetermined amount of gas from Lansing lime at 3270 feet. The pay was topped at 3269 feet. The well will be deepened.

Company, Well and Location	Init. Prod. Bbls.	Depth
STAFFORD COUNTY—		
Empire, Sifers 1, ne ne sw 3-21s-11w	720	3343
SUMNER COUNTY—		
Craft & Wilson, Nevitt 1, ne nw ne 36-32s-2e	*	3570
WOODSON COUNTY—		
Henderson Oil, Vostraz 2, sw ne ne 23-23s-14e	20	1635
Elbar Oil, Opperman 2, ne ne ne 27-23s-14e	250	1618
Pure Oil, Winterschield 18, se ne sw 6-24s-14e	100	1724
Sheedy et al, Klick 6, sw se se 20-25s-14e	725	1465

*Failures; †Junked; ¶Million cu. ft. gas.

Near the Barton County extension of Silica pool, Rosespring Drilling Company et al's Rick 1, SWc 1-19s-11w, swabbed 12 barrels of oil an hour from 3354 feet in Siliceous lime. Rick 1, located four miles north of Silica pool, opens another new pool for Barton County.

Possibility of further extending Silica pool was seen at The Texas Company's Kleile 1, NW SW SW 34-19s-10w, which found saturation on top of the Siliceous lime at 3321 feet. The well is an east offset to the Hartman & Blair's Schartz 1, NE SE SE 33-19s-10w, which was having trouble with equipment as the well was being tested at the rate of 25 barrels per hour on its potential. Production in Schartz 1 is coming from 3318 feet in Siliceous lime.

Another new pool was opened south of Leon, Butler County, by Robert E. Ellis' Fred Pettit 1, SEc NW 21-28s-6w, which pumped 53 barrels of oil in 19 hours from 3165 feet in Siliceous lime.

In western Kansas, Stanolind Oil & Gas Company et al's Donovan 1, CSE SE 14-26s-18w, Edwards County, is a possible pool opener. The well had conglomerate at 4457 feet, and Viola lime from 4460 to 4495 feet. Operators stopped at 4500 feet in the Kansas City lime to install a control head.

Several new starts were noted throughout the state. Location was staked for C. L. Price et al's Deutsch 1, SWc 10-16s-13w, Barton County. Drilling operations were due to start at an early date at Norbla Oil Company's Burkett 1, CSW 15-11s-22w, Trego County. Simar Oil Company and Brunson Drilling Company et al's J. S. Leiker 1, was a location in NWc SE 12-15s-18w, southeastern Ellis County.

Some few disappointments were reported from the area. Kansas Oil Corporation et al's Penny-Wann 1, SEc 13-15s-20w, drilled out cement plugs in Oswalt lime at 3341 feet, but was drilling below 3405 feet with nothing showing. In Ellsworth County, Roy Ramsey et al's Gregory 1, SWc SE 25-16s-9w, topped Siliceous lime at 3318 feet and drilled to 3323 feet, where it probably will be abandoned.

Of the 41 completions for the Sunflower State, 32 wells were completed for oil with an aggregate initial production of 26,713 barrels, 1 well was completed for 7,000,000 cubic feet of gas, 6 wells were failures and 2 locations were abandoned.

Revival Possible

WEST TEXAS MAY REACH ALL-TIME PEAK SOON

WEEKLY STAFF REPORT

Midland, Texas. — Routine development work in established fields and exploratory drilling in West Texas are assuming proportions that may surpass the high mark attained before the district was forced into the background by the first flood of oil from the giant East Texas field. Majors are expending large sums in West Texas trying to accumulate additional potential oil reserves. Independents from other districts and states are moving in for a share of the renewed activity that is sweeping across the Permian basin, and have resumed wildcatting on a large scale.

Wildcat projects on popular production trends, and those adequately supported by geophysical and geological data are being financed through the sale of protection acreage with less sales resistance than at any time in recent years. Majors are speeding up the play by turning loose large cash sums in trying to strengthen their position on lease ownership. In recent weeks Sinclair Prairie Oil Company, Atlantic Oil Producing Company, Shell Petroleum Corporation have come to life on a large scale as contenders for a place in the West Texas production picture. Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Oil Corporation, Phillips Petroleum Company and others among the more consistent purchasers of prospective acreage are showing signs of more aggressiveness.

The north portion of the Permian basin is commanding the most attention, as successful completions since the first of the year in Gaines and Yoakum counties prove conclusively that the deadline for production to the north has not been established. In addition to new exploratory tests under way in the above two counties the search for new producing areas has been extended into Terry, Cochran and Hockley counties. Gaines County has a big gasser near Seminole that was junked above the projected oil horizon, and has a small commercial oil producer in the south portion that now appears to be situated near the edge of the structure. Yoakum County's single producer drilled by Honolulu Oil Corporation and Cascade Petroleum Company on the L. P. Bennett ranch is providing fuel for drilling wildcats in the general area, and is credited with having boosted its yield to 60 barrels oil per hour on unofficial gauges. This partnership is scheduled to start work shortly on a second test for their discovery block, and Texas Pacific Coal & Oil Company is likewise making plans to drill on close-in acreage withheld when a portion of its original block was farmed out to the above partnership for a test.

Payment of approximately $300,000 cash bonuses for leases on fee land of the University of Texas early last week by majors and independents reflects increased interest in West Texas acreage. Highest prices were paid for tracts in Crane, Ector and Andrews counties, which offer favorable trend plays with a number of fields in each. Ector County is in line for a big drilling program in the northwest extension area of the Goldsmith field, and possibly in the extreme northwest corner of the county. R. L. York and O. E. Harper, Midland, have succeeded in financing wildcats scheduled to be started shortly in C NE NE Section 10, Block 44, T&P Ry. Survey, T-3-S, and in the NW¼ Section 26, Block 45, T&P Ry. Survey, T-1-S. Grisham-Hunter Corporation, Abilene, is drilling two wildcats in the northwest corner of the county, and a third prospect is under way on the same geological feature in southern Andrews County.

Atlantic Oil Producing Company made its first major expenditure in West Texas in some years the past week in acquiring Wahlenmaier Petroleum Corporation's working interest in three producing leases in the heart of the prolific Henderson field, Winkler County. The consideration was not made public, but it involved a substantial cash sum and oil payment as two of the wells are among the largest in the field, and a total of 140 net acres. Atlantic Oil Producing Company is due to stage an active drilling campaign now that it holds full interest in the three tracts. Completed wells cost about $18,000, and currently are prorated to 100 barrels daily.

Landreth Production Corporation's Kirk 1, south central Gaines County wildcat producer, scored a small gain in oil yield in deepening from 4820 to 4870 feet, or 1599 feet sub-sea, but developed one bailer of sulphur water per hour after testing several days. Prior to the appearance of water the well produced 100 barrels of oil in 16 hours on bailing and swabbing test. It will be plugged back and shot. Humble Oil & Refining Company's Wales Eubank 1, situated possibly on the same structure and about 8 miles to the northwest of Kirk 1, was drilling near the 4600-foot level with first saturation due within 100 feet. The latter topped brown lime at 3950 feet, or 165 feet higher structurally than Kirk 1.

In west central Yoakum County, Bahan Thodes and Fitzpatrick's Henard 1, C SW Section 367, Block D, was drilling hard lime formation at 4970 feet, having encountered first lime at 4490 feet, or 799 feet below sea level. Elliott Roosevelt and Lou Stogner's Roosevelt-Googins 1, lo-

TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Alma Oil Co., O. R. Kritzmair 2	478	3309
Cambrian Oil Co., C. S. Barrett 6	622	3244
Conoco, B. F. Finley-Brown 14	662	2987
Empire O&R Co., W. E. Crow 3	817	3275
King Oil Co., C. Baer-Gulf 2	504	3283
Stanolind, H. H. Mertens 3	169	3277
Texwell Oil Corp., L. C. McConnell 4	¶1203	3266
HUTCHINSON COUNTY—		
R. A. Burnett et al, I. Ingerton 1-C	¶19.4	3090
Phillips Pet. Co., J. J. Perkins 5	324	3004
L. L. Travis et al, J. T. Hodges 2-A	345	3089
MOORE COUNTY—		
Anderson-Kerr Pet. Co., W. J. Morton-California 3, sec 201	¶77.3	3078
Barnsdall Oil Co., Harrington 2	190	3259
Shamrock O&G Co., A. F. Robertson-Gulf 1-A	1500	3347
WHEELER COUNTY—		
Alma Oil Co., Johnson-Stanolind 2-B	34	2497
Danciger O&R., Inc., Roach 1	¶54.8	2154
Lela O&G Co., Laycock 8	¶5.1-3	2131

*Failures; †Junked; ¶Million cu. ft. gas.

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY—(Means Field)—		
Humble, J. S. Means 8	703	4525
CRANE COUNTY—(Waddell Field)—		
Gulf Oil Corp., W. N. Waddell 14	8640	3535
Tide Water, W. P. Edwards 1	3996	3590
CRANE COUNTY—(McCamey Field)—		
The Texas Co., Richard King 26	130	2403
ECTOR COUNTY—(Goldsmith Field)—		
Gulf, C. A. Goldsmith-Scharbauer 5	¶26-1412	4200
Phillips Pet. Co.-Pure, Clyde Cowden 5	2815	4158
HOWARD COUNTY—		
Owen M. Murray et al, J. P. Davis-Magnolia 4	765	2816
Ward Oil Co., D. Roberts 24	57	2944
JONES COUNTY—		
N. H. Martin & Son, Spurrier 1	72	1932
F. E. Shaheen et al, J. J. Steele 1	*	1296
LOVING COUNTY—(Wheat Field)—		
California Co., J. G. Allen 6	52	4293
PECOS COUNTY—(Torborg Field)—		
Cardinal Oil Co., M. A. Smith 1-D.	18	450
PECOS COUNTY—(Wildcat)—		
Dobbs Oil Co., Rooney 1	*	2639
PECOS COUNTY—(Yates Field)—		
Marathon Oil Co., I. G. Yates 50-A	700	1330
UPTON COUNTY—(McCamey Field)—		
Mack T. Anderson-A. W. Rutter, Burleson-Stanolind 1	141	2215
Atlantic O. P. Co. et al, M. Shirk 2	480	2394
WARD COUNTY—		
Atlantic, W. D. Black-Camp 4	433	2620
California Co., B. D. Durgin 40	957	2544
A. B. Gordon 28	1570	2513
FHE Oil Co., J. W. Maxwell 1-B (53-ac)	372	2397
L. Richter 2-C	1157	2570
Gulf, Hutchings 51	¶2.6-77	2800
Rio Bravo Oil Co., D. Olcott 5	1007	2505
D. Olcott 9	2568	2536
Sinclair Prairie, J. C. Messer 2	352	2352
Skelly Oil Co., Martin 1	2484	2502
Wahlenmaier Pet. Corp., R. O. Potts-Humble 7	425	2384
WINKLER COUNTY—(Henderson Field)—		
Atlantic O. P. Co., Fred Leck 1-B	5000	3075
WINKLER COUNTY—(Keystone Field)—		
The Falcon Co., McCutcheon-Humble 2	250	3650
WINKLER COUNTY—(Sayre Field)—		
Atlantic-J. D. Collett, Hendrick 8-J	931	3040
Herbert Oil Co., Ida Hendrick 1	350	3031
Magnolia, J. B. Walton 25	398	3015
Navarro Oil Co., J. A. Drane 1	300	3107
WINKLER COUNTY—(Scarborough Field)—		
Illinois Oil Co., Scarborough-Skelly 1	258	2975

*Failures; †Junked; ¶Million cu. ft. gas.

cated in the north central part of the county, was drilling in red beds at 3560 feet.

North extension area of the Grand Falls district, Ward County, added another big producer through completion of Skelly Oil Company's Martin 1, near northwest corner of H.&T.C. Section 40, Block 34, with a natural flow of 2375 barrels initial through casing from sandy-lime at 2491-2502 feet. The well produced 1388 barrels oil the first 7½ hours.

The Yates field carried off production honors for the week through M. B. Bryant et al's State-Vacancy 1 having gauged 2603 barrels on 1-hour open flow gauge from lime at 1248-1257 feet. It is on a 11.44-acre strip lease.

New Fault Active

FIRST SULPHUR BLUFF WELL CAUSES ANOTHER LOCATION

WEEKLY STAFF REPORT

NORTH TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
S. S. Alexander et al, R. O. Andrews 1, sec 1806	*	955
L. T. Burns et al, W. P. Ferguson 1-C	*	1800
J. J. Perkins 1-C, sec 10	150	1619
C. B. Christie et al, L. F. Wilson 5, blk 14	114	1613
Consolidated Oil Co., Portwood 2-DD, sec 2412	25	1437
Deatson & Gose, H. Hawkins 1, sec 22	*	521
N. D. Goldsmith et al, L. F. Wilson 3, sec 1	130	1611
C. B. Long et al, Turbeville 12, blk 156	25	1518
Nelson & Tucker, Ford 4	5	1002
Shappell Oil Co., W. H. Thomas 1	*	1480
COOKE COUNTY—		
Bridwell Oil Co., R. W. Trew 5	*	1752
Conoco, B. H. Hilburn 1	*	1803
Kewanee O&G Co., Hyman-Lanier 24-A	10	1393
A. D. Robinson et al, J. H. Otto 2-A, blk 5	8	845
Ruwaldt-Couch Pet. Co., Andress 7	*	1498
Seitz-Comegys & Seitz, Inc., R. W. Trew 15-A	*	1600
The Texas Co., J. F. Truebenbach 2	11	979
Whitfield et al, R. S. Rose 1	632	1943
JACK COUNTY—		
R. D. Compton Oil Co., Henderson 5, blk 2	*	370
O. Loving 1, blk 2	2	337
Gillespie Bros., G. M. Helvey 1	40	3011
E. C. Gossum et al, D. L. Perrin 1	*	480
Lawson Pet. Co., C. C. Chambers 1	86	2999
Panhandle Ref. Co., M. B. Cook 3	25	2975
Yorktex Pet. Co., D. C. Clayton 1	385	2976
MONTAGUE COUNTY—		
Pure Oil Co., Maddox 10-D	20	839
The Texas Co., Cunningham 11-A	19	920
Cunningham 10-B	38	940
WICHITA COUNTY—		
A. E. Blair et al, C. A. Mertins 1, sec 4	3	473
W. B. Omohundro et al, S. P. Gibson 5-A, blk 302	125	1936
Reno Oil Co., Waggoner Est. 1-D, sec 1	†	1635
C. E. Rollins et al, J. W. Seals 1	*	730
C. P. Sheldon et al, C. H. Whittenbach 1, blk 303	*	2037
The Texas Co., Waggoner Est. 428, blk 148	25	1392
Waggoner Est. 429, sec 13	41	1574
WILBARGER COUNTY—		
Barkley & Meadows, Waggoner Est. 19-C, sec 5	30	1123
YOUNG COUNTY—		
V. E. Eckholm et al, Stratton 1	*	568
Fresno Oil Co., O. A. Andrews 1-A, sec 201	*	890
J. W. Cox 4, sec 18	6	598
Gorsuch Oil Co., O. W. Matthews 21	*	745
H. E. Hurley et al, R. D. Webb 2	*	710
Lewson Pet. Co., O. W. Hill 1	2000	4010
L. A. Long et al, S. R. Jeffery 1	3600	3979
Ratlike Oil Co. et al, Jeffery-Seddon 2	¶4-1250	3967
Wichita Prod. Co., E. C. Keith 10, sec 267	10	721
Wooten & Wilson, S. L. Scott-Thompson 1-B, sec 334	42	753

*Failures; †Junked; ¶Million cu. ft. gas.

Tyler, Texas.—Operations began late last week on a second test in the Sulphur Bluff pool, situated in northeastern Hopkins County, where a new low gravity oil area has been established in the Paluxy zone along the Talco-Mexia fault. Confident of an attractive pumper being made of their discovery well, D. S. Hager, W. P. Luse and Russ Petroleum Company skidded rig 600 feet to the southwest for the drilling of J. E. Worsham 2, which is also located 1336 feet from east and 330 feet from north lines of 300-acre tract, A. O. Wetmore Survey, about 2½ miles south of the town of Sulphur Bluff.

The original Paluxy sand well at Sulphur Bluff failed to flow natural when first swabbed in July 11 from pay section at 4467-4500 feet, but the ability of the well to produce by swabbing forecasts a 500-barrel pumper. The oil tests 27.9 gravity at 98 degrees temperature. Installation of working barrel and pumping rods the past week caused the well to flow by heads at rate of about 30 barrels daily. Pumping tests have been delayed pending the setting up of a permanent standard rig pumping unit.

Search for new sources of production from the Paluxy along the Talco-Mexia fault now centers upon Earl G. Colton, R. P. Lester et al's Barrow Bros. 1, northeastern Kaufman County wildcat, which has drilled to 4640 feet, logging broken shale, hard lime and shells. Top of Georgetown lime was picked by paleontology at 4194 feet, or 3666 feet sub-sea, according to C. A. Lester, Dallas, owner of an interest in the test and block, and slight oil saturation was found in sandy-lime break at 4509-17 feet. The test has not cut through the fault plane to the upthrow side thus accounting for the comparatively low structural position registered by the Georgetown lime marker. Owners have fully financed the cost of a 6000-foot test, and Clark-Cowden Drilling Corporation is contracted to drill to this level, if necessary to reach a decisive depth.

Calto Oil Company, headed by E. B. Germany, Dallas, has sold sufficient acreage from its block that centers upon the Bazette structure, Navarro County, to assure drilling of a Trinity sand test within a few months. Companies that bought protetcion leases have approved a 90-day extension on the starting of a well.

Pure Oil Company's W. H. Faulkner 1, first Trinity test for Rusk County and situated upon the Mount Enterprise faulted structure, logged hard sand in drilling at the 7620-foot level. Cores taken since reaching the Travis Peak, or Red Beds section of the Basal Trinity at 7323 feet, have recorded evidence of oil under ether tests, but no showings to justify the running of a formation tester have been encountered. The company may attempt to drill below the Lower Cretaceous to horizons that have never been penetrated in the East Texas Woodbine sand belt.

In the Camp Hill area, Anderson County, Gulf Oil Corporation's M. J. Ross 1 was logging shale and lime formation while drilling at 6890 feet. Tide Water Oil Company and Seaboard Oil Corporation's J. N. Edens 15, second Trinity test for the Cayuga field, Anderson County, was drilling below 6005 feet in the upper section of the Glen Rose, having logged first Georgetown lime at 4619 feet, with an elevation of 313 feet.

In Houston County, Ellison, McBride et al's J. E. Bean 1, which opened a new Woodbine sand area about 1½ miles northwest of Grapeland July 14 from sand at 6027-6037 feet, has failed to convert into an oil producer after blowing gas and distillate for more than a week. The well produces about 5 barrels of 55 gravity distillate per hour through small tubing and casing chokes. Gas volume is rated above 50,000,000 feet daily. In the northwest portion of the county, Walter L. Goldston et al's B. W. Burns-Humble 1, near Reynard, was drilling below 5100 feet, having topped first hard Pecan chalk at 4714 feet, with an elevation of 255 feet.

TALCO DIFFICULT

Pay sand hard to find on long narrow fault

Mount Pleasant, Texas. — Barren areas found in the Paluxy zone at Talco by tests occupying favorable structural positions are providing headaches for geologists and operators attempting to explore the long and narrow faulted structure. New failures reported the past week increased the total dry holes in the Paluxy sand series to 10 within and adjacent to the producing area. In contrast to these adverse developments there are now 25 producers, including three that require pumping equipment. Current operations involve 22 active tests, and nine derricks and rigs.

Talco was destined to stage a major drilling program, with independents who have prospered in the East Texas field setting the pace on developments. Now that the Paluxy zone, or first sand section of the Trinity series, has been found to be somewhat irregular on production per-

formance with failures adjacent to producers occupying identical structural positions operators are inclined to move cautiously. The hit and miss results are attributed to the deposition of shale and non-porous sandy-shale and lime sections within an area that affords two distinct oil saturated sand levels, with medium saturation between. This condition prevails less than one-half mile south of the fault plane.

Failures have been recorded some distance to the east and west of production, although geological markers above the Paluxy compared favorably with those of producing wells. In view of this condition, it can not be stated with any degree of certainty that these failures have defined the producing limits of the structure.

Franklin County recorded two failures and possibly a third the past week although each occupied favorable structural positions. Lawrence S. Flannery, Incorporated, et al's J. L. Hedrick 1, NEc of a 66.08-acre lease and MEP&P Ry. Survey, westernmost test, was abandoned at 4365 feet, or 3992 feet sub-sea, after logging sand identified as water bearing at 4341-4351 feet. Several of the best producers in the field were drilled to 4003 feet below sea level without encountering water. Hedrick 1 logged top of the Georgetown lime at 3455 feet, or 3082 feet below sea level. Top of Paluxy series was placed at 4235 feet. Humble Oil & Refining Company's P. J. Dawson 1, a north offset, was destined to be added to the dry hole list through having failed to log oil saturation of consequence in drilling below 4330 feet, with an elevation of 372 feet. Joe DeGrazier et al's F. M. Batts 1, NEc of 30-acre lease and F. M. Batts Survey, A-688, located three-quarters of a mile to the southeast, entered Georgetown lime at 3504 feet, or 3148 feet sub-sea, and first Paluxy at 4274 feet. The hole was abandoned at 4343 feet, or 3987 feet below sea level.

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Large Producer

Magnolia Petroleum Company and Humble Oil & Refining Company's Lucy Blackburn 1, west offset to the most easterly producer in Titus County, proved to be one of the largest producers to date, having flowed 82 barrels of 25 gravity pipe line oil through open tubing from Paluxy series at 4178-4340 feet, with an elevation of 359 feet. Pay was logged at 4235-68 feet and 4325-40 feet. Pressure gauge recorded zero when the well was flowing, and built up to 150 pounds within five minutes after the well was closed in.

Prospects of a deep test being made by Porter Bros. et al's W. T. Sullivan 1, NEc of a 4-acre lease and on the north line of the I. P. Stern Survey, less than one-half mile southwest of the discovery well, were virtually abandoned the past week. Majors refused to contribute as they do not consider the time ripe to explore the lower Trinity, since a successful test would touch off a major drilling program on the many small tracts held by independents within and near the Talco townsite. Porter Bros. et al's test has been idle for several weeks after finding the Paluxy at 4188-4352 feet, with an elevation of 348 feet, barren of oil, gas or water. Humble Oil & Refining Company's L. Stevenson 1, west offset to this failure, encountered sufficient oil saturation to indicate a producer in Paluxy at 4171-4240 feet, with an elevation of 341 feet, and cemented 7-inch pipe at 4151 feet.

Dean Brothers and Albert Adkisson, Fort Worth, largest owners of Talco townsite leases, with permits approved for 16 tests, have assigned 10 small sites to three groups of independents and the latter are to develop same for a substantial oil payment and over-riding royalty payable to the former. Red Iron Drilling Company, Gladewater, recently completed A. Cornelius 1, located on a three-acre tract in the southeast part of Talco, and have progressed beyond 3500 feet on Lavada Church Lot 1, center of a one-acre site, Franklin County, offsetting production, with obligation to drill four additional tracts. T. J. Carter Drilling Company was assigned lease on two 6/10-acre sites, involving Lot 4, Block 29, and Lot 3, Block 30, Talco, and have started up on the latter. R. E. Massengill et al were assigned lease on the J. B. Bond 6/10-acre site, Lot 2, Block 44, and I. Tidwell ¾-acre site, Lot 15, Block 16. The latter was drilling below 2500 feet late last week.

Humble Pipe Line Company does not propose to start construction work on its projected 65-mile eight-inch crude line from Talco to Longview, where connection will be made with 10-inch line that delivers Van crude to Baton Rouge, Louisiana, for some weeks hence, according to reports. The company is credited with planning to build the line in time to start handling crude in the early fall, and may limit its runs to about 5000 barrels daily, then boost takings to 9000 barrels daily in 1937.

Drilling Drops

MANY WELLS IN BIG FIELD BELOW "MARGINAL"

Tyler, Texas. — Active rigs in the East Texas field declined to 90 the past week as result of the current volume of completions surpassing new work. One week previous the field was credited with 102 rigs in active service, but since the latter count there have been 53 oil producers and 4 dry holes listed as completions, or at rate of about 8 final reports daily.

Independents continue to carry on the bulk of the field work, having recorded 32 of the 57 completions the past week. All signs point to a substantial drilling program being carried out as long as the crude price and market structure remain firm, but the volume may be reduced somewhat since special efforts are being waged by state and federal authorities to prevent the diversion of proration allowable assigned dead wells and those incapable of making their quota to better wells on the same or nearby properties.

Upon conclusion of surveys of the field by agents of the enforcement bodies some interesting figures promise to be revealed. Investigation to date has shown that a sizeable number of wells will not produce their proration allowable of 20 barrels daily on pump. This production deficit occurs generally on the east flank of the structure, where sand conditions are poor. Many independents have specialized in developing these stripper areas, but are losing interest now that federal prosecution awaits those who conspire to make false affidavits in rendering monthly production reports on individual wells. The investigation has revealed that majors also have wells that will not produce the 20-barrel minimum, and that deductions were not made until agents conducted actual gauge.

The current list of completions carries 14 oil producers that require the aid of pumping equipment or swab to make their allowable. Some of these are on the west flank of the structure, and are showing water.

PERFORATING WORKS

Van well makes good flow after shooting

Tyler, Texas.—Van field added three producers and a failure the past week. The largest flow was credited to Pure Oil Company's R. L. Wells 18, an inside location in the southeast part of 51½-acre lease, Mund Gross Survey, which averaged 86 barrels per hour on 3-hour proration gauge through 11/16-inch choke on 2½-inch tubing from Woodbine sand section at 2594-2953 feet. This well was drilled 394 feet into the Woodbine to 2988 feet, or 2500 feet sub-sea, and cemented 7-inch casing on bottom after running an electrical formation surveying tool in order to test the application of the gun perforator method of completing wells with pipe landed at the water level. The hole originally was plugged back in casing to 2974 feet, and the pipe perforated by gun with 20 shot holes, then plugged back to 2953 feet and pipe perforated opposite the best saturated sand section.

Results attained with the gun perforator in completing Wells 18 indicates that the method may be used more extensively on future operations on leases that are apt to develop bottom hole water. This trial test was made on one of the most prolific leases in the field. The company has been running electrical formation surveying tool on nearly all completions for some months in order to compile accurate data on sand conditions that will eventually be of value when bottom hole water necessitates plug-back jobs.

Pure Oil Company's O. L. & L. L. Swain 7, located on 43.8-acre lease, John Walling Survey, averaged 73-2/3 barrels hourly through 11/16-inch tubing choke on potential test from Woodbine at 2735-2995 feet, with 7-inch pipe cemented at 2753 feet. The same company's M. L. Gilbert 5 was completed in sand at 2903-2948 feet as a 73-barrel pumper. In the north-extension area, Humble Oil & Refining Company's J. F. McPherson 1, near southeast corner of 72-acre lease, Wm. Daniel Survey, registered a low structural position in logging top of Woodbine at 2964 feet, or 2495 feet sub-sea, and was abandoned in water sand at 2974 feet.

EAST TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Max Cherry et al, Moore 1	*	2490
J. E. Farrell & Co., W. W. Hammett 5 (100-ac)	140	3633
Harry Hanbury et al, J. H. Sharp-Marathon 6 (112.32-ac)	5000	3699
Humble, Sol Dennis 9 (73.13-ac)	8500	3914
Kline & Powers (Marr Drl. Co.), T. Lacy 1-B	600	3667
M. H. & Jim McMurrey, H. C. Dickerson 3-B (39.51-ac)	150	3621
Marathon, C. L. Graham 21, lse. 2 (134.7-ac)	8400	3660
T. W. Medlin et al, Mayfield 8 (82.91-ac)	4000	3842
Ortiz Oil Co., L. Tolliver 9 (16.12-ac)	3600	3740
Sells Pet., Inc., S. A. St. Clair-Sun 8 (84.83-ac)	5500	3750
Sinclair Prairie, Bradford 8 (35½-ac)	1500	3650
Allen Kersh 4 (150-ac)	120	3675
Mayfield Co. 69-A (374.74-ac)	6000	3764
Stanolind-Pure, R. J. Burton 19 (154.67-ac)	5000	3644
KILGORE AREA—		
Amerada Pet. Corp., Clayton 2 (10-ac)	7000	3555
Atlantic O. P. Co., W. J. Brightwell 20 (96.4-ac)	9000	3613
M. B. Hugrey 15-C (100-ac)	10,000	3602
Arcadia Ref. Co., E. Samples-Magnolia 2 (101.66-ac)	2500	3726
Bowles Oil Co., D. Wells 14 (100-ac)	600	3702
Gulf, S. Hilburn 81-B (172-ac)	5200	3538
Humble, J. N. Peterson 40 (222.1-ac)	7400	3610
T. W. Lee & Williams, Carter 5-A (64-ac)	500	3613
W. B. Pearce et al, J. V. Borfers 2, blk 135	150	3570
Rozel Oil Corp., A. L. Still 1-B (91-ac)	275	3551
A. L. Still 6-B (98-ac)	240	3551
A. L. Still 7-B (98-ac)	280	3556
Rubin & Nadel, D. Wills 7 (86-ac)	4500	3635
Sinclair Prairie, A. A. King 61-A (337.6-ac)	8400	3519
A. A. King 18-B, Tr. 2 (111.8-ac)	8000	3480
Sullivan & Wheeler, Trip Elder 1 (75-ac)	*	3775
Sun-Seaboard Oil Corp., W. L. Pentecost 16 (131½-ac)	8300	3655
R. L. Wheelock & Collins, D. Wells 19 (120-ac)	240	3740
LONGVIEW AREA—		
Arkansas F. O. Co., W. T. Burnside 38 (209-ac)	10,000	3500
A. A. Castleberry 2-B (11.97-ac)	3000	3588
Atlantic O. P. Co., A. Tooke 6-A (40-ac)	8500	3560
W. M. Day et al, Victory 2 (20-ac)	500	3671
Empire O&R Co., J. C. Bumpas 15 (57.85-ac)	5500	3532
Gilcrease Oil Co., A. Tooke 5-B (31.6-ac)	9100	3535
Humble, I. D. Smith 35 (245.98-ac)	4700	3614
Dr. W. D. Jones et al, L. B. Miller 4 (37-ac)	250	3775
W. C. Knox et al, E. O'Byrne 17	2300	3770
C. H. Lyons & N. F. Neeley, J. Hargraves 1 (15-ac)	25	3776
Magnolia, H. Hampton 17 (153.33-ac)	8600	3650
H. C. Mosley et al (was T. C. Sheppard-Ward), Hamilton 1 (43-ac)	*	3765
Pete H. Pewitt et al, M. Phillips 2	300	3744
A. O. Phillips et al, Victory 5 (35.6-ac)	500	3611
P. F. Rutledge-C. W. Boller, P. Todd 12 (155-ac)	500	3735
Selby O&G Co.-Lewis Prod. Co., Snavely 30-B (361.2-ac)	7000	3576
Shell, C. C. Landers 22 (132.99-ac)	4500	3659
Sinclair Prairie, M. Moncrief 50 (307.7-ac)	9400	3600
Stanolind, M. D. Harley 7-A (41.51-ac)	8200	3664
Sun, Frank Medlin 2 (55¾-ac)	*	3788
Tide Water-Russ Pet. Co., Flewellen 22 (210.9-ac)	3000	3702
Tide Water-Stanolind, Flewellen 48-B (374-ac)	3500	3806
Trapp & Blankenship, Miles 3-B (7.85-ac)	9000	3500
J. E. Watts et al, E. O'Byrne 6 (144.6-ac)	5200	3806
Wise & Jackson, A. Callahan 2 (55-ac)	25	3729
ANDERSON COUNTY—(Cayuga Field)—		
Tide Water-Seaboard Oil Corp., E. L. Harton 2-A (106.48-ac.)	300	4088
ANDERSON COUNTY—(Long Lake Field)—		
Tide Water-Seaboard Oil Corp., W. V. Keeling 1 (186-ac)	¶65	5344
FRANKLIN COUNTY—(Talco Field)—		
Joe DeGrazier et al, F. M. Batts 1 (30-ac)	*	4343
Lawrence S. Flannery, Inc. & Stroube, J. L. Hendrick 1 (66.08-ac)	*	4365
McAlester Fuel Co., A. M. Crawford 2 (25.23-ac)	960	4303
HENDERSON COUNTY—(Cayuga Field)—		
Cortex Pet. Co., M. V. Wathen 2 (37-ac)	3600	4099
TITUS COUNTY—(Talco Field)—		
Jones & Shelburne, Inc. Hazlewood 1 (10-ac)	*	4351
Magnolia-Humble, L. Blackburn 1 (80.51-ac)	2000	4340
VAN ZANDT COUNTY—(Van Field)—		
Humble, J. F. McPherson 3 (72-ac)	*	2974
Pure Oil Co., M. L. Gilbert 5 (103.3-ac)	73	2951
O. L. & L. L. Swain 7 (43.8-ac)	9000	2995
R. L. Wells 18 (51½-ac)	10,000	2988

*Failures; †Junked; ¶Million cu. ft. gas.

Corpus Humming

WILDCAT COMPLETIONS LEAD TO DRILLING CAMPAIGNS

WEEKLY STAFF REPORT

Corpus Christi.—With more new producing areas being discovered, there is no let-up in drilling activity in sight for the Coastal Sector of South Texas. Development campaigns have been announced for several more new fields in this sector following successful wildcat completions.

Humble Oil & Refining Company, Barnsdall Oil Company and C. F. Hurlburt, who jointly own the majority of the new Flour Bluff field, Nueces County, are obligated to carry on a rather heavy immediate drilling campaign. The J. O. Phillips discovery tract of 200 acres is supposed to require continued drilling on 20-acre units, or a total of ten wells. These wells will require a number of offsets. In addition, Gem Oil Company and Windsor Oil Company have taken the J. A. Smith 60-acre lease, ½-mile north of the discovery, and have immediate drilling obligations. Several other deals are in process of completion whereby wells will be drilled immediately.

On the same strike, but across Corpus Christi bay in Aransas County, Atlantic Oil Producing Company has a 20-well obligation in the new Aransas Pass field. Buckingham Oil Company, discoverer of the field, also has several more locations to drill immediately.

Buckingham Oil Company's McCampbell 1, discovery well, is making considerable gas and spraying about 4 barrels of 40.5 gravity oil per hour through 7/64-inch choke under a tubing pressure of 2250 pounds and a casing pressure of 2575 pounds. The well drilled to 7501 feet, plugged back, and went to 6500 feet in a sidetracked hole. Casing was perforated at 6539-47 feet.

New Sinton Sand

Plymouth Oil Company is widening the Sinton field, San Patricio County, to the southeast and at the same time is opening a new producing horizon approximately 100 feet deeper than the regular level. The new well is in sand at 5533-41 feet, whereas the other production in the field is at 5450 feet. The well is E. H. Welder 2-D, Section 1, nearly ½ mile southeast of production. It marks the reentry of Plymouth Oil Company into this field with a development campaign which is expected to continue at nearly the same pace as did the Plymouth field operations. In addition, the extension of this field and the opening of a new sand to the southeast indicates that the production may cross Chiltipin creek into the Sinton townsite areas and into a district fairly well broken up by leases and fee owners.

San Patricio County is receiving a rather aggressive wildcatting campaign, several important geophysical structures being drilled at this time. In fact, the whole Refugio trend through Refugio, San Patricio and Nueces Counties, is receiving a number of wildcats.

Heyser field, Calhoun County, apparently has another sand with Humble Oil & Refining Company and Plymouth Oil Company testing E. H. Welder 2 at 5494-5501 feet. The well showed a high gas/oil ratio on its completion at 5473 feet, which prompted the deepening. These operators are starting another well in the field, and Buchanan and Blanco have commenced a test.

Continental Oil Company's Austin (Vandenberg) 1, a mile north of Seadrift heaving shale wells, Calhoun County, drilled to 8722 feet in the shale, came out to change bits, but could not get back on bottom. The special type 8⅝-inch drill pipe-casing stuck at 8521 feet and has been cemented. It will drill ahead to test sands encountered at 8714-22 feet.

Steinberger Petroleum Corporation's Druschell 1, deep test on the southeast side of the Edna Gas field, Jackson County, had reached 4250 feet in sidetracked hole at last reports.

Stanolind Oil & Gas Company's Frame & Bowers 1, Section 14, on the extreme west of the Bentonville-King field, Jim Wells and Nueces Counties, tested salt water when completion was attempted between 5396-5415 feet. It has been plugged back for further tests. One mile southwest of the field, Stanolind Oil & Gas Company's J. J. Thompson 1 plugged back from 5705 to the 4000-foot sand and has been completed as a large gasser through 3/16-inch choke, showing a tubing pressure of 1580 pounds and a casing pressure of 1660 pounds.

Saxet Extended West

A ½-mile west extension to Saxet field, Nueces County, was being provided by Mills Bennett's J. K. Ordner 1, which was cleaning after perforating casing at 4078-82 feet. The well drilled to 5855 feet, but plugged back.

The field work through the Corpus Christi district continues unabated. New producers were reported during the week in Saxet, Saxet Heights (Corpus Christi), Plymouth, Taft, Greta, Tomoconnor and Placedo fields.

O. W. Killam had drilled plugs and was preparing to test Betty Ellick 2, 660 feet south of Ellick 1. The well had a sand section at 3881-3908 feet, but drilled to 3922 feet before setting casing. The first well, which extended the Clara Driscoll field, Nueces County, more than a mile to the south, blew out from the same sand. It ran wild for several days, but finally was controlled and plugged back to a shallower sand for completion.

Extensions Likely

GOV'T WELLS, RHODE AND LOMA VISTA BENEFIT

Laredo.—One new field and several extensions seemed possible late in the week with wildcats testing or preparing for completion in sands ranging from the Cole to the Mirando. They are scattered from the center of McMullen County to the southwestern edge of Duval County.

Loma Vista field, Duval County, has two potential extensions. Pan American Production Corporation's J. W. Welder Heirs 1-H, one mile southwest of the field, showed gas in the upper portion of the Loma Novia sand and was going ahead in search of oil saturation. Shell Petroleum Corporation's J. F. Welder Heirs 1-B, 1¼ miles northwest of the field, found excellent saturation in the Loma Novia sand at 2861-72 feet, but three drill stem tests failed. It is going ahead to the Mirando sand, but will plug back for completion at this level.

Twelve miles north of Seven Sisters field, but in McMullen County, C. C. Shumway et al's Shiner Ranch 9, NW NE Section 51, is in the Lower Government Wells sand and has considerable saturation. The first drill stem test failed and a second was being attempted.

Humble Oil & Refining Company is extending the Rhode field, same county, 1½ miles northeast, with D. W. Rhodes 2, SE SW SW Section 17. The well drilled to 3037 feet, plugged back and set 5½-inch casing at 1780 feet. It will gun perforate in the sand topped at 1731 feet, and will complete as a gasser.

Cox and Hamon extended the Lopez field one mile farther northeast into Duval County, when it was completed for 22 barrels of oil per hour via artificial flowing device. It is in the Mirando sand at 2140-45 feet.

Parr Oil Company is completing W. H. Sling 1 in the Government Wells sand. It is SW SW NW Section 118, three locations north of production in the Seven Sisters field. This extension places considerable new acreage within the producing limits.

Starr County Hit

ED LEACH DISCOVERS GAS FIELD NEAR RIO GRANDE

Mission.—A new gas field for Starr County was established last week when Ed Leach et al's Dana Estate 1, 4½ miles southeast of Rio Grande City and 2600 feet north of the river, was completed through perforations at 963-75 feet. The well drilled to 1071 feet, casing was set at 1068 feet. The test rocked up a pressure of 400 pounds.

This well is in Porcion 84 and is 450 feet northwest of A. J. Weyel, Trustee's Wood 1, which blew out from 2100 feet some time ago and subsequently was abandoned. Another test was drilled in the area, but it failed to find production.

In the same general area, Killam and Staggs' Sanford Ricaby 3, Porcion 83, and 3400 feet south of Highway 4, has a gas sand at 963-74 feet and 977-93 feet and has set casing at 1448 feet to gun perforate for completion at the upper level.

The first oil producer for the Barlow or 2900-foot sand in the Samfordyce field, Hidalgo County, is attracting new work. Danvers and Harrison's Uvalde Villalon 1, 900 feet north of production, drilled to 2953 feet, set casing on bottom, and perforated at 2940-48 feet. It flowed slightly more than 2 barrels per hour through 3/32 inch choke under pressures of 825 pounds on tubing and 1200 pounds on casing. Several offsets have been commenced, and other wells are being drilled along trend, the belief being that this new sand may finally develop into the same proportions as the regular 2700-foot horizon. Still another sand is found between these two horizons.

TWO FIELDS LOOM

Several tests on Balcones Fault at critical depths

San Antonio. — Several important wildcats along the Balcones fault zone were at critical stages as the week closed. A couple of them give promise of opening new fields.

Amerada Petroleum Corporation again attracted interest to the Pearsall field, Frio County, with the deepening of T. G. McWilliams 1, Tract 6, from Austin chalk at 5565 feet where it originally was completed for an initial flow of 661 barrels of oil through ¾-inch choke on seven-hour production test. The well late in the week was below 5850 feet in Eagleford Shale and likely will be carried into the Buda, or possibly the Edwards, lime. The only completion in the Buda lime made a large producer.

The company has three wells drilling below 5500 feet in the Austin chalk. All have set casing and are now taking in more formation before completion. It is understood that this company shortly will commence three more wells to the Austin chalk, after which possibly one deep test will be drilled.

Atascosa Trust's U. A. Doumch 1, Russell Survey No. 122, 3 miles north of Poteet, Atascosa County, found gas in the Georgetown below 3900 feet and was going ahead to the Edwards. It had several oil shows in the Austin chalk, but failed to make a producer on first tests.

In the same county, but 1 mile northwest of Anchorage, Helvetia Oil Company's Susie Pratt 1, F. de la Garza survey, is attempting to complete at 2300 feet after plugging back from 2434 feet. The well had a sand and sandy shale section from 2249-2300 feet and set 7-inch casing at 2245 feet.

Eickenroht and Gallagher's O. H. Jahns 1 was drilling plugs preparatory to testing Austin chalk breaks. The well is bottomed at 3134 feet, with 6⅝-inch casing set at 2739 feet. It is 3 miles southwest

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of South Darst Creek field and is in the Green DeWitt Survey, Guadalupe County.

Four miles northeast of Luling in Caldwell County, H. B. Starkey et al's Francis-Brown-Cochran 1, W. F. Young survey, is bailing heavy mud cut with oil at 1742-47 feet. It showed considerable oil and gas when first drilled into the sand and attempted to blow out. The well was pumped full of heavy mud while casing was being set.

TWO TESTS WATCHED

Spotlight is focused on Goliad County wildcats

Beeville.—Goliad County holds main interest in the Pettus district with one wildcat in process of completion and a second setting casing for a series of tests. Live Oak County's hot Pettus wildcat just west of Three Rivers showed salt water on a production test.

Zeni Oil Company's M. Lutenbacher 3, just southeast of its first test in Block 25, Goliad Town Tracts, Goliad County, is preparing to deepen into the Pettus sand before attempting completion. The test is bottomed at 5365 feet with casing set at 5352 feet. The well to the northwest blew out, ran wild, and finally was abandoned.

Six miles northeast of Goliad and in the vicinity of the Victoria County line, Claude Morgan et al's Mrs. W. O. Maetze 1, G. Barrera Survey, ran an electric formation tester at 4547 feet and drilled ahead to a reported 5800 feet and is running casing preparatory to making production test in upper sands. It showed several excellent gas sands. Elevation is 177 feet, derrick floor; Texularia Warreni topped at 3726 feet; Massalina Pratti topped 4083 feet; Hockleyensis topped 4204 feet. This is a geophysical prospect worked by the Felmont Oil Corporation. Sun Oil Company, Stanolind Oil & Gas Company and Atlantic Oil Producing Company hold protection acreage.

Efforts to extend the North Pettus field another mile east into Goliad County failed when Pettus Oil & Refining Company's P. H. Hickle 1, J. Gomez survey, showed salt water in the Pettus sand and was abandoned at 3695 feet.

H. A. Pressey is still trying to complete R. T. Hicks 1, wildcat 4½ miles northwest of Pettus which is showing for a gasser through perforations at 3482-3502 feet, the sand being in the Hockleyensis.

Adolph Douvre's San Antonio Joint Stock Land Bank 1, Pettus sand test in the Three Rivers field of Live Oak County, showed salt water after perforating at 1808-15 feet and has been cemented back to perforate again at 1792-1802 feet, where it showed for a gasser. This well found the salt water in the regular Pettus sand, but the gas is in the upper portion of the Cockfield.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEXAR COUNTY—		
Joe Deupree, R. S. Coffey 1-A, 900 ft el, 965 ft sl of 420-ac tr, Fernando Rodriguez sur	*	1200
Geo. O'Neill et al, Hilda Gillette 1, 465 ft fr WW White road, 235 ft nl of 49-ac tr in M. G. de Alamiz sur 20	†	1540
DE WITT COUNTY—		
Universal Oil Co. & Glaspie, Schubel 1, 330 ft sl and wl of C. Fitsgerald sur	*	1567
DUVAL COUNTY—		
Bridwell Oil Co., Wm. Hubberd 2-D, sec 73, (Loma Novia)	255	2742
Al Buchanan, DCRC 5, sec 206 (Eagle Hill), perf 1495-1513	110	2213
Buchanan and Blanco Oil Co., J. F. Welder heirs 13A, sec 385 (Seven Sisters), perf 2188-93	65	2194
Cox & Hamon, J. B. Peal 1, 330 ft nl and wl of nw¼ of sur 796, (extends Lopez 1 mi ne)	600	2145
Rodney Delange, Bishop Cattle Co. 12, sec 76, (Loma Novia)	394	2729
Duval Oil Corp., D. Ruiz 5, sec 119 (Hoffman)	405	2876
Highland Oil Co., M. C. Hubberd 21, sec 72 (Loma Novia)	116	2738
M. C. Hubberd 31, sec 72 (Loma Novia)	135	2762
Humble, R. Serna, Jr. 10B, sec 384 (Seven Sisters)	295	2190
R. Serna, Jr. 15B, sec 384 (Seven Sisters)	*	2686
T. D. Smith 17, sec 382 (Seven Sisters)	520	2459
T. D. Smith 19, sec 382 (Seven Sisters)	300	2463
Ed Leach, R. Serna 1, sec 384 (Seven Sisters)	415	2498
Magnolia, C. W. Hahl 44, sec 67 (Loma Novia)	¶4	2720
Wm. Masten, D. Ruiz 1A, 330 ft nel 280 ft sel of n¼ sec 128 (Hoffman)	*	2854
Plymouth Oil Co., Sophie Hoffman 3B, sec 118, (Hoffman)	50	2921
Reliance O&R Co., Drummond 7, sec 308, (Seven Sisters)	750	2521
Rogers & Rogers, E. R. Hagist 1, 330 ft sl and wl of lot 14, sec 265, 2 mi ne of Eagle Hill	*	2580
Sophie Hoffman 4, sec 118 (Hoffman)	377	2881
Shell Pet. Corp., M. C. Hubberd 29, sec 77 (Loma Novia)	275	2761
V. Mendoza 8, sec 68 (Loma Novia)	695	2766
Fred Shield, A. Hazelwood 3, sec 110 (Seven Sisters)	*	2758
GOLIAD COUNTY—		
Diamond Half Oil Co., E. G. Gillette 3B, J. Gomez sur (N. Pettus)	100	3686
Magnolia Pet. Co., E. G. Gillette 2, J. Gomez sur (N. Pettus)	95	3681
Welden & Lackey 3, J. Gomez sur (N. Pettus)	250	3718
Pettus O&R Co., P. H. Hickle 1, 330 ft nwl and nel of 231-ac tr, J. Gomez sur (N. Pettus)	*	3695
HIDALGO COUNTY—		
Danvers & Harrison, Uvalde Villalon 1, tr 252, porc 39, J. of Reynosa (Samfordyce)	250	2953
JIM WELLS COUNTY—		
Stanolind O&G Co., F. L. Blundell 1, sec 16 (Bentonville)	*	lcn.
LAVACA COUNTY—		
Cole Pet. & Rhea Nixon, Rud E. Nollkamper 1, 330 ft sl and wl of Arch Smothers sur	*	2400
LIVE OAK COUNTY—		
Carrol Brown, R. A. Rackley 2, 750 ft sl, 150 ft wl of e½ of tr, L. J. Sparks sur	*	1107
MAVERICK COUNTY—		
Thompson & Streeter, Joseph Wipff 1, 1800 ft sl and 330 ft wl of sec 18, 7 mi w Chittim field	*	220
MILAM COUNTY—		
J. O. Kilgore, Trustee, W. R. Newton 1, 150 ft sel, 300 ft nel of Wm. Rogers 153-ac tr, J. Reed sur	*	2567
NUECES COUNTY—		
Capital Oils Inc., Corpus Christi School 1, Fairview School tr (Saxet Heights)	400	4088
W. W. Chapman, Tr., May Bliss Humphrey 1, Stevens sur 406 (Saxet)	765	5825
Coastland Oil Co. & Keystone Royalties, Page Bros. 1, 330 ft nl and el of 50-ac, sh 2, Geo. Franks subd, perf 5751-55 (Saxet)	65	5931
Morgan Gulf Oil Co., Rand Morgan 2-G, BS&F sur 403 (Saxet)	765	5821
Pedernal Oil Co., Pondron 1, lot 11, Country Club Place (Saxet Hts)	200	4084
Richardson Pet. Co., C. R. Priour 1, block 10, Oak Park Add (Saxet Heights) perf 4060-65	850	4075
Saxet Prod. Co., J. Uehlinger 2, Bancroft Farm lots (Saxet)	250	4082
Southern Minerals, Frank Bliss 5, J. W. Stevens sur 406 (Saxet)	510	5830
Frank Bliss 6, J. W. Stevens sur 406 (Saxet)	530	5830
REFUGIO COUNTY—		
Mills Bennett Prod. Co., Fred Walzel 1, 330 ft out of ne cor of sec 13, Bonnie View subd, Estaban Lopez sur	*	6314
Quintana Pet. Corp., Clement Heard 1, Ximines sur (North Tomoconnor)	2600	5911
Tom O'Connor 2-C, Swisher sur 5, (Tomoconnor)	3040	5925
SAN PATRICIO COUNTY—		
C. B. Bunte, W. C. Mayfield 1, 237 ft s of nl, 121 ft e of wl of tr 11, Roos subd	*	lcn.
Humble O&R Co., J. W. Mayo 4, J. H. Ottman sur (Taft)	750	3978
STARR COUNTY—		
Coreta Oil Co., Frank Doyno, blk 1, tr 4, sh 77A, porc 81 (Rio Grande City)	65	1448
Henshaw Bros., Yturria Land Co. 1, e½ porc 100 (Samfordyce) perf 2775-79	288	2779
WEBB COUNTY—		
Mills Bennett Prod. Co., E. L. Valadez 10, sec 114 (Lopez)	550	2205
Magnolia Pet. Co.'s Servando Benavides 10, blk 6, O'Hern-Seacord subd, El Mesquite gr (Cole)	500	2845
G. G. Mortimer, Jesus Lopez 5, sec 73 (Lopez)	575	2171
South Texas Oil Co., Fee 2, blk 21, sec 768	*	lcn.
ZAPATA COUNTY—		
The Texas Co., Whitehead 91, Cerrito Blanco gr (Escobas) pb, td 1215	18	1240
ZAVALLA COUNTY—		
Bay Oil Corp., Nat'l Bank of Commerce 1, 1320 ft wl, 930 ft sl of sec 43, blk A in AB&M sur	*	6917

*Failures; †Junked; ¶Million cu. ft. gas.

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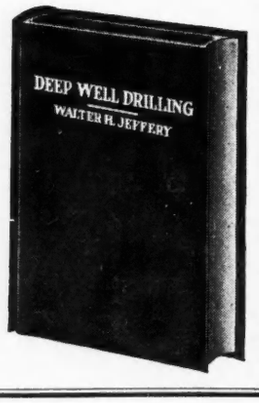

Nome Productive

STRIKE IS SHELL'S FIRST FIND ON TEXAS COAST

WEEKLY STAFF REPORT

Houston. — Shell Petroleum Corporation got its first oil field in the Texas sector of the Gulf Coast last week when Carpenter 1, Nome prospect, Jefferson County, came in flowing 26.9 gravity pipe line oil at the rate of 574 barrels per day through a quarter-inch choke from Marginulina sands at 6005 feet.

After making a drill stem test the previous week at 5990 to 6058 feet which showed 40 stands of pipe line oil with a 50 pound pressure in 9 minutes, the well was washed in for a production test. The wildcat came in flowing oil and wash water July 19, at the rate of 24 barrels per hour through a quarter-inch choke with a tubing pressure of 950 pounds and a casing pressure of 1450 pounds. Seven-inch casing was set at 6005 feet after plugging back to 6058 feet. The hole was originally drilled to 6887 feet in the Vicksburg formation after logging salt water sands in the Frio formation.

The discoverer of the Nome field has approximately 4000 acres surrounding the discovery well, while Sun Oil Company and The Texas Company control acreage south and southwest. Several independent operators have scattered acreage in the area.

Nome, a geophysical prospect, has been explored by Sun Oil Company and The Texas Company. Sun Oil Company drilled two deep tests in the area and each test showed oil around 6000 feet.

At the end of the week the discovery well was shut in for storage. Operators have one 1000-barrel storage tank constructed and will construct two 1000-barrel tanks.

Sun Oil Company has made location for Paggi 2 south of Shell Petroleum Corporation's Carpenter 1. It is 1400 feet west of the most easterly east line and 491 feet south of the north line of the J. W. Kirby Survey, Jefferson County.

Salt Water at Lochridge

On the Lochridge prospect in Brazoria County, Gulf Production Company's Fairfield 1, A. Robeson Survey, swabbed salt water and a trace of oil at 8576 feet. The liner was perforated with 11 shots from 8585 to 8576 feet. The operators have plugged the hole back and will make a test above the perforations.

Sun Oil Company's Hughes 2, Green's Lake prospect, W. C. M. Baker Survey, Galveston County, was preparing to swab at 3845 feet. The hole was drilled to 5085 feet and plugged back. Seven-inch casing was cemented at 3845 feet. The operators are preparing to test sands from 3857 to 3876 feet. Hughes 2 is 933 feet northeast of Hughes 1, which showed for a discovery well some time ago when it came in making 26 gravity oil before it went to salt water.

On the Midfield prospect in Matagorda County, Marathon Oil Company's Kountz 1, I & G. N. Survey No. 11, drilled salt water sand last week from 6127 to 6161 feet. At the end of the week the well was drilling in shale at 6238 feet.

Continental Oil Company has made a location north of Magnet in Wharton County. J. F. Weakley 1 is 519 feet south and 461 feet west of the northeast corner of Block 32 of the Missouri Lincoln Trust Company's subdivision of the Jas. Clements Survey. Cockburn Oil Corporation has a location for Fee 1 in the same general area.

West of the Withers field and 1800 feet northwest of The Texas Company's Pierce Estate B-1 extended the producing area 13,000 feet west when it came in as a gas well. The Texas Company's Pierce Estate B-2 was waiting on cement to set at 5268 feet after plugging back from 5558 feet. Seven-inch casing was cemented at 5268 feet to protect the hole. The last drill stem test taken on Pierce Estate B-2 was from 5541 to 5553 feet. It showed 275 feet of sand and oil through two quarter-inch chokes in 20 minutes. The operators will re-drill back to this sand and make a production test.

Shell Petroleum Corporation is having considerable trouble in making a drill stem test on Maco Stewart 1 at Hitchcock in Galveston County. Several drill stem tests have been taken around 6468 feet, but each time the seat failed to hold.

Southwest of Ariola and in the A. J. Cotton Survey, Hardin County, Resource Production Company's Howth 1 cored salt water sand from 5913 to 5918 feet, and at the end of the week it was running a wire line measurement at 6016 feet.

Progress on Republic Production Company's Brooks 1, has been delayed due to a fishing job encountered at 6840 feet when the drill stem stuck. Last week the operators were washing over the drill stem and dropped seven-inch casing in the hole. This will be fished out and coring will be continued. The previous week a drill stem test made from 6735 to 6840 feet showed a 400-pound pressure with two fourbles of oil cut mud and sand.

At Hawkinsville, Matagorda County, Sun Oil Company is just about to give up hope of bringing in Craig 1 as a producing well. Once the well showed for a commercial producer but finally started making salt water at 5150 feet. After working with it for several weeks the operators started swabbing. At the end of the week the operators were swabbing 15 barrels daily. It is reported that Sun will abandon this hole and drill another in the area.

Skelly Oil Company's Langham 1, 1800 feet southeast of production at Van Vleck, Matagorda County, last week was re-completed, making 376 barrels of pipe line oil through ¼-inch choke from the deepest producing sand in the field. Tubing pressure was 774 pounds. Previously the well made oil and salt water.

Skelly Oil Company has made location for Cobb C-9 at Van Vleck. The well is 2060 feet northeast along the northwest line of the M. Cummings Survey from the west corner, thence 427 feet north at right angles. It is approximately 950 feet north and west of Cobb B-7 in the I. & G. N. Survey No. 1, Matagorda County.

In Walker County, Boone Brothers announced location for A. J. Adams 1. It is 331 feet south of the north line and 330 feet east of the west line of Tract 14 in the G. Sosa Survey. It is approximately half mile northwest of Trinity. Contract depth is 3600 feet. The general area has been worked by torsion balance and several wells that drilled in the area have had gas and oil shows at shallow depths.

Dickinson field, Galveston County, was extended northwest last week when Humble Oil & Refining Company completed Maco Stewart 6, W. K. Wilson Survey, for 10 barrels of oil per hour through ¼-inch choke. The well was completed at 8055 feet after topping the sand at 8050 feet and setting 7-inch casing at 8045 feet. Tubing pressure was 1950 pounds, casing pressure 2150 pounds.

Humble Oil & Refining Company made three locations in the Dickinson area last week. Location for Maco Stewart A-9 was made in the southwest portion of the field and is the company's first location in this part of the field. It is 400 feet west of the east line and 400 feet northeast of the southwest line of the tract in the W. K. Wilson Survey. Maco Stewart A-9 is a northeast offset to Coast Petroleum Corporation's Maco Stewart A-3. Magle 4 is 800 feet southwest of Magle 2 and 466 feet east of the west line of J. S. Jones Survey. The same operator's Townes 5 is 1423 feet west of the east line and 140 feet northeast of the north line of the Dickinson Bayou and 894 feet from Townes 2, in the B. B. B. & J. S. Jones Survey.

Five at South Houston

Five new oil producers were completed in the South Houston field, Harris County, last week and two more wells were in the process of being completed there. All of the producers were in the west and northwest parts of the field.

Stanolind Oil & Gas Company's Pittman 1, H. & T. B. Survey, No. 6, was

finaled at 4800 feet for 226 barrels daily after topping broken sand and shale at 4731 feet and setting seven-inch casing at 4697 feet. The said company also completed Holder 1 at 4775 feet after setting seven-inch casing at 4596 feet. The well came in flowing pipe line oil at the rate of 447 barrels daily through a quarter-inch choke with a tubing pressure of 580 pounds and a casing pressure of 500 pounds. Smith & McDannald's Lamb 1 came in as a producer from 3980 feet, being a Miocene well. It made 420 barrels daily through a quarter-inch choke with a tubing pressure of 420 pounds and a casing pressure of 410 pounds. Oil sand was topped at 3920 feet and seven-inch casing was set at that depth.

On the northwest flank of South Houston field, Dick Schwab's C. P. Williams 2, H. & T. B. Survey, No. 6, was completed as an oil producer at 4802 feet in Oligocene formation for 315 barrels daily through a quarter-inch choke. On the Interurban right-of-way, Sterling Oil & Refining Company completed Houston Electric Company 1 for 290 barrels of pipe line oil daily through a quarter-inch choke. Tubing pressure was 450 pounds, casing pressure, 1600 pounds. The hole was drilled to 4775 feet and oil sand was topped at 4718 feet. Five and three quarter-inch casing was cemented at 4698 feet.

On the extreme northwest flank of South Houston field Stanolind Oil & Gas Company made location for Carson 1. It is 373 feet south and 300 feet west of the northeast corner of W. J. Carson 10-acre tract in H. & T. B. Survey, No. 6.

Hastings field was being extended southeast into Galveston County last week by Stanolind Oil & Gas Company's Elliott 1, Wm. Henry Survey, Galveston County. Seven-inch casing was being run at 6035 feet, top of the oil sand. The hole was drilled to 6042 feet in oil sand. Heretofore the field has been confined to Brazoria County.

On the northwest side of Hastings field, Humble Oil & Refining Company completed Cannon 6, H. & T. B. Survey, No. 36, for 32 barrels per hour from 6060 feet. On the north side of the field, Stanolind Oil & Gas Company's Williams 6 is nearing completion at 6080 feet. Seven-inch casing has been set in oil sand at 6065 feet.

On the north and northwest sides of Anahuac field, Chambers County, Humble Oil & Refining Company brought in two oil producers, but due to high gas/oil ratios the wells were killed. The wells will be reworked. Humble's White B-2, northwest side of the field, was brought in as a producer from 7113 feet for 8 barrels per hour through ¼-inch choke. The oil sand was found at 7097 feet. Seven-inch casing was set at 7085 feet. The same operator's White 12, J. McGehay Survey, was completed at 7115 feet, making 5 barrels per hour through ¼-inch choke with high gas pressures. Oil sand was found at 7101 feet, and 7-inch casing was cemented at 7085 feet.

Gulf Oil Corporation is down to the oil sand in Knowles 3, which is the third well drilled in the Anahuac area by the operators. Seven-inch casing was being run at the end of the week at 7100 feet.

Humble Oil & Refining Company has two wells flowing into the burning pits at Anahuac. Engles 11, H. & T. C. Survey No. 50, was flowing into the pits through ¼-inch choke from 7080 feet. Top of the oil sand was found at 7025 feet, and 7-inch casing was set at 7051 feet. Zappe 5, H. & T. C. Survey No. 51, is the other well, flowing into pits. It is bottomed at 7080 feet in oil sand, with the top of the sand cored at 6991 feet. Seven-inch casing was set at 7041 feet.

C. Gholson & L. Decker's Randolph 1 in the Evergreen area, Vital Flores Survey, San Jacinto County, was abandoned last week at 4175 feet in the Cockfield formation. Salt water sand was cored from 4008 to 4175 feet.

On the North Rosenberg prospect, in the area of the Harlem-Clodine prospect in Fort Bend County, The Texas Company abandoned Sugarland Industry 1, J. Foster Survey, at 5160 feet in the Frio formation. The well failed to show any evidence of oil and recovered salt water in the Frio section of the Oligocene.

Amelia Re-Completion

Humble Oil & Refining Company's Pinchback 2, C. Williams Survey, Amelia field, Jefferson County, has been re-completed at 6775 feet, making 27 barrels of 29.6 gravity pipe line oil per hour through ¼-inch choke with a tubing pressure of 950 pounds and a casing pressure of 1000 pounds.

The casing was perforated at 6775 to 6778 feet with nine holes. The first time the casing was perforated at this depth the well would not flow. The first production test given the well some time ago it made 18 barrels per hour through ¼-inch choke, with a tubing pressure of 1460 pounds and a casing pressure of 1900 pounds. Due to the high gas/oil ratio, the well was killed.

Sloan, Zooke, Broussard et al are making location for J. B. Salee 1 on a 75-acre tract in the Wm. Barker Survey, south of Tide Water Oil Company's abandoned hole on the Splendora prospect in Montgomery County.

Lake Charles.—There were only four oil producers in the Lousana Gulf Coast during the past week. Initially the wells made an aggregate of 1675 barrels daily. There were seven failures reported in the area.

Shell Petroleum Corporation's Lacassine 1, Hayes prospect, Jefferson Davis Parish, was abandoned at the end of the week at 8664 feet after drilling to a total depth of 9844 feet. The well was plugged back a number of times and drill stem tests were made which showed salt water.

TEXAS GULF COAST

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARIOLA—		
Houston Oil Co., Ariola 13	234	3260
BIG CREEK—		
Glenn Oil Corp., Davis 1	*	3238
CONROE—		
Malta Oil Co., Falvey 10	540	5089
A. U. Morrison, Powell 2	520	5038
DICKINSON—		
Humble, Bayou Dev. Co. B-4	*	8344
Maco Stewart B-6	240	8055
HANKAMER—		
Uscan Oil Co., Ezell 5	*	5768
HASTINGS—		
Humble, Cannon 6	768	6060
LIVINGSTON—		
Humble, Grandbury-Smith 19	360	4248
LOUISE—		
Pure, Kountz 6	¶3½	5150
MANVEL—		
Texas Co., Houston Oil Field Association B-22	339	5770
PICKETT RIDGE—		
Rio Bravo Oil Co., T. & N. O. 1	100	4696
PIERCE JUNCTION—		
Rio Bravo Oil Co., Settegast B-14	90	4554
SOUTH HOUSTON—		
Dick Schwab, C. P. Williams 2	315	4802
Smith & McDannald, Lamb 1	420	3980
Stanolind, Holder 1	447	4775
Pitman 1	226	4800
Sterling O&R Co., Houston Electric Co. 1	290	4775
VAN VLECK—		
Skelly, Langham 1	376	8248
WEST COLUMBIA—		
Texas Co., Abrams 13	75	3050
FT. BEND COUNTY—		
Texas Co., Sugarland Industries 1, n of Rosenberg, J. Foster sur	*	5160
JEFFERSON COUNTY—		
Shell, Carpenter 1, Nome prospect, M. Peveto sur	574	6022
C. B. Megarity, Gardener 1, s of Amelia, S. Stivers sur	*	lcn.
ORANGE COUNTY—		
Tide Water, Brown 1, Cow Bayou prospect, M. Latham sur	*	7706
SAN JACINTO COUNTY—		
Gholson & Decker, Randolph 1, Evergreen area, Vital Flores sur	*	4175

*Failures; †Junked; ¶Million cu. ft. gas.

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Record String

10,947 FEET OF CASING IS SET IN SOUTH LOUISIANA

Lake Charles.—The outstanding development in the Louisiana Gulf Coast during the past week was the landing of 10,947 feet of seven-inch casing in Continental Oil Company's Alvin Hebert 1, Abbeville prospect, Vermilion Parish, which established a new world record.

At the end of the week the operators were preparing to drill cement plugs and continue drilling down to a record depth of 13,000 feet. Around 13,000 feet of drill pipe was hauled to the location while the well was waiting on cement to harden.

Continental Oil Company set the record string of seven-inch in fast time and used around 2000 sacks of cement with 10 tons of ice. It is understood that pressure on the pumps was on for only three minutes and that over 7000 feet of cement went up into the hole. However, the operators think that sufficient cement went back to the casing to hold the heavy load of casing. At any rate the cement will be drilled out of the hole and new hole will be made. Before setting the casing the crew was drilling with a four-inch drill pipe. This has been reduced to three-inch.

Bayou Mallet Defined

Failure of Superior Oil Producing Company and Woodley Petroleum Company's H. Goss 1 to find production in the regular pay horizon at Bayou Mallet, Acadia Parish, defines the field on the southeast side. H. Goss 1, Section 13-7s-1e, east of the discovery gas well, was abandoned at 8405 feet.

After abandoning H. Goss 1 the company made location for G. Bradley 4. It is 415 feet north and 760 feet east of Bradley 1, or 2170 feet south and 1050 feet west of the southwest corner of Section 37, being in Section 51-7s-1e, Acadia Parish.

Union Sulphur Company has made a third wildcat location on the South Lake Charles prospect in Calcasieu Parish. The latest test to be drilled in the area is Wurmnest 1, which is approximately three miles southeast of Union Sulphur Company's two other deep dry holes. The wildcat is located 330 feet north and 500 feet west of the southeast corner of Section 9-11s-8w.

In September, 1935, Union Sulphur Company drilled Prairie Farms 1, Section 1-11s-9w, to 9041 feet in shale before it was abandoned. In March, 1936, the same operators completed Prairie Farms 2, Section 2-11s-9w, as a dry hole at 9250 feet in water sand after topping the water sand at 9244 feet. On an electrical logging device a sand from 4555 to 4566 feet showed a little reaction.

Union Sulphur Company and Shell Petroleum Corporation have worked in the area with torsion balance and reflection seismograph. After Union Sulphur Company drilled the first wildcat, which was abandoned, they reworked the area with reflection seismograph and surrendered several thousand acres of the original 12,000-acre block. Shell Petroleum Corporation while working in the general area is reported to have found the structure under Sections 33-10s-8w and Sections 4-11s-8w. In addition to Shell Petroleum Corporation and Union Sulphur Company, Fohs Oil Company and Mills Bennett Production Company have scattered leases throughout the general area, along with several other major and independent oil companies.

Triangle Oil & Land Company has made location for a wildcat test in Jefferson Parish. Carrol 1 is 1921 feet east and 154 feet south of the intersection of Hammond and Bennabal Boulevard in Section 125-12s-11e.

New Iberia Completions

One producer and one failure were completed on the northwest side of New Iberia field last week. Harry Foditaes 2, Section 25-12s-7e, Iberia Parish, was completed at 4687 feet flowing pipe line oil at the rate of 355 barrels daily through a quarter-inch choke. Tubing pressure was 400 pounds. The well cored oil sand at 4500 feet and 7-inch casing was cemented at 4564 feet.

Wm. Helis' Schwing 1, Section 56-12s-7e, New Iberia, was marked up a failure when it was abandoned at 4591 feet. The crew swabbed sand and salt water with a trace of oil. The hole was drilled to 4591 feet in salt after topping the formation at 4580 feet. The hole was plugged back and seven-inch casing was cemented at 4181 feet. On an electrical logging device the well showed a high resistivity and porosity.

Three new locations were made in the field last week, two of which should prove to be interesting tests as they are on the extreme north and northwest sides of the field. The Texas Company's Schwing 1 is 350 feet west and 44 feet north of the southeast corner of Section 71-12s-7e. Bill Crysanthou's Gulf Smith Fee 1 is 837 feet north and 2089 feet east from the common corners of Sections 25, 56 and 71, being in Section 71-12s-7e. The third location made in the field was Wm. Helis' Bullock & Burk 1, 375 feet south and 626 feet west of the west corner of Section 52-12s-7e.

Continental Oil Company's Fee 1, which

SOUTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BAYOU MALLET—		
Superior Oil Producing Co., H. Goss 1	*	8405
BOSCO—		
Superior, Iseringhausen 3 (wo)	75	8683
NEW IBERIA—		
Harry Foditaes, Gulf Land Fee 2.	360	4686
Wm. Helis, Schwing 1	*	4591
PORT BARRE—		
Texas Co., Perkins 1	*	5702
ROANOKE—		
Shell, Carter 3	685	8659
SULPHUR—		
Union Sulphur, Fee 830	555	3106
WEST HACKBERRY—		
Stanolind, School Land A-16	*	3400
AVOYELLES PARISH—		
Frost Oil Co., Hinds Lumber Co. 1, sec 3-3n-4e	*	lcn.
PLAQUEMINES PARISH—		
Southern Sulphur Co., Manhatten Fruit Co. 1, Venice dome, sec 26-21s-30e	*	3510
ST. BERNARD—		
Emerald Petroleum Co., Shell Beach 1, sec 31-13s-15e	*	7380

*Failures; †Junked; ¶Million cu. ft. gas.

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extended St. Martinville field and discovered a new producing sand some time ago at 7343 feet, is now making around 77 barrels daily. The company has announced location for Fee 2. It is 1817 feet west of the east line and 1130 feet north of the south line of a 172-acre tract in Section 18-11s-6e, St. Martin Parish.

Coastal Plain Oil Company's Domendeaux 1, 1000 feet east of the discovery well at St. Martinsville, Section 57-11s-5e, failed to find the producing sand which was found in the discovery well and has been shut down some time ago at 5841 feet. It has been taken over by Tide Water Oil Company, the discoverer of the St. Martinville field, and will be drilled deeper.

The Texas Company's Perkins 1, on the flank of Port Barre field, Section 4-6s-5e, St. Landry Parish, proved disappointing when the hole was plugged at 5702 feet after giving indications that it would establish flank production from a sand which heretofore has not produced at Port Barre. While drilling to 5702 feet a sand showing oil was encountered from 5445 to 5451 feet, but the testing tool failed to hold. The tool was open only one minute and the operators recovered 200 feet of mud and a scum of oil. A drill stem test was made from 5489 to 5494 feet in 10 minutes through quarter-inch chokes and 80 feet of mud with dead oil on bottom was recovered. A sand showing oil was cored from 5692 to 5697 feet, and after passing out of the sand showing oil, salt was encountered. This formation was cored down to 5702 feet, the abandoned depth.

Extensions

RODESSA AGAIN PROMISES TO EXTEND TO ARKANSAS

NORTH LOUISIANA

WEEKLY STAFF REPORT

Shreveport. — The extremes of the northeast and southwest ends of the Rodessa field again furnished the chief interest in that field last week with extensions recorded on both of these sides and possibilites of over a one-mile farther western extension on the southwest side.

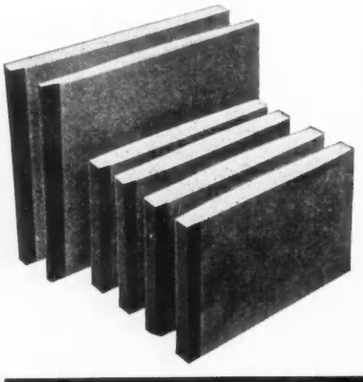
Altogether there were 8 completions last week, 5 on the Louisiana side and 3 on the Texas side. There were 51 wells drilling in Rodessa of which 17 were on the Texas side and 34 on the Louisiana side. The Louisiana side had 8 rigs and derricks and 4 active locations while the Texas side had 9 rigs and derricks and 7 active locations.

Extending the northeast offshoot of the field one location farther north, Blackwell Oil & Gas Company completed Neugent 2, NE SE 8-23n-15w, flowing 23 barrels of oil per hour through ½-inch tubing choke from 6090 feet in the Hill sand. Tubing pressure was 1250 pounds and casing pressure, 1600 pounds. This is the second Hill sand producer in the field, Neugent 1, of the same company directly south of the new well having been the first and until now the only Hill sand oil well in Rodessa. Recently completed good wells in this northeast offshoot of the field have caused a considerable increase in drilling, there now being 9 active operations under way in the outskirts of this part of the field and operators feel that there is a likelihood of the producing limits of the field going even farther northeast probably across the Arkansas line in that direction. Some geological maps prepared on the basis of recent data from new wells in the northeast part of the field indicate this.

In the extreme southwest Cass County, Texas, part of the field (the Rambo extension sector), the fifth oil well last week was completed when Showers & Moncrief's Stallcup 1, James Davenport Survey, was completed at 6006 feet flowing 19 barrels per hour through ¼-inch tubing choke with casing pressure 925 pounds and tubing pressure, 500 pounds. This widened this part of the field about ½-mile northward. Another well completed during the week in the southwest offshoot was United Production Corporation's Tyson A-2, J. H. Rives Survey, completed at 6050 feet flowing 16 barrels of oil per hour through ¼-inch tubing choke. In the same part of the field Magnolia Petroleum Company's W. M. Hall 1, W. Robinson Survey, was completed at 6114 feet flowing 51 barrels per hour through ½-inch tubing choke, with casing pressure 850 pounds and tubing pressure 600 pounds.

On the southeast edge of production on the Louisiana side, Regent Oil Company's Tyson 1, SE SW 23-23n-16w, was completed flowing 6 barrels of distillate per hour through 3/8-inch choke at 6005 feet. Other completions within the limits of the field were: Standard Oil Company of Louisiana's Otwell 7, SE SE 15-23n-16w, flowing 90 barrels per hour through open tubing at 5998 feet and Otwell 8, SE SE 15-23n-16w, flowing 108 barrels per hour through open tubing at 5995 feet; and Magnolia Petroleum Company's Foscue 4, SE SE 20-23n-16w, flowing 15 barrels per hour through 3/16-inch choke at 5991 feet.

One mile west of production in the



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Rambo extension part of Cass County, Marathon Oil Company Thursday was testing R. P. Willis 1 (320-acre tract), S. F. I. W. Survey at total depth of 5985 feet; seven-inch casing was cemented at 5930 feet after an electrical tester was run.

Among the 5 locations announced last week in Rodessa on the Louisiana side was an outside test in NW SW Section 14-23n-15w, northeast of production, W. P. Anson's N. S. Spearman 1.

Pressure Drop

Average thickness of the oil producing horizons in the Rodessa field is 40 feet, according to data compiled from the examination of approximately 1300 acres taken in the Dees and Young horizons which with 2 exceptions in the Hill sand in the northeast part of the field are the only oil producing sands of the 4 at Rodessa.

The average porosity as revealed in these cores is 18 percent and the average permeability is 120 millidarcies.

The original bottom-hole pressure of 2600 pounds has dropped to 1780 pounds in Section 14-23n-16w, the thickest producing section of this field, where at the time the data were gathered had 67 producing wells. In Section 29-23n-16w, where one well has been drilled to each 40 acres, the present bottom hole pressure is 2200 pounds but taking into consideration the number of barrels produced in the 2 respective sections a comparison of the two is not so bad for Section 14 as would be indicated at first glance.

Definite evidence of formation of gas caps in the best part of the field is indicated by the decline in reservoir pressure, is the view of these making the survey.

Although the state of Louisiana has so far not attempted to impose the severance tax as it applies to oil, to the several thousand barrels of distillate produced daily in the Rodessa field, some companies are reported to be setting aside the amount that would be charged as a tax so in the event this tax should ever be imposed the fund for such payment would be available.

A number of wells in the field produce nothing but gas and distillate. Court action probably would have to be sought to determine if the oil tax could be imposed on the distillate. The feeling prevails that where the distillate is uncolored no tax would be imposed but where it is tinged with crude oil color the tax might be imposed.

Three new fields discovered in the Glen Rose below the anhydrite all producing gas and distillate would be affected should such a tax be imposed. These are Simsboro, Lincoln Parish; Bienville Parish, and Sibley, Webster Parish, as well as one well in Sligo, Bossier Parish.

Routine Leasing

Only routine leasing and geophysical exploration took place last week in North Louisiana.

In Bienville Parish, Atlantic Oil Pro-

NORTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH—(Rodessa)—		
Magnolia, Foscue 4, 20-23n-16w	2000	5991
Blackwell O. & G. Co., Neugent 2, 8-23n-15w	1500	6090
Regent Oil Co., Tyson 1, 24-23n-16w	1000	6005
Standard, Otwell 7, 15-23n-16w	2000	5998
Otwell 8, 15-23n-16w	2000	5995
CASS COUNTY—(Texas)—		
Magnolia, W. M. Hall 1, W. Robinson sur	3000	6114
Showers & Moncrief, Stallcup 1, Jas. Davenport sur	2000	6006
United Prod., Tyson Unit 2, J. H. Rives sur	2000	6050
CALDWELL PARISH—		
Zeigen et al, La. Cent. Lubr. Co. 7, 10-12n-3e	*	1763
MOREHOUSE PARISH—(Monroe)—		
United Gas, Tensas Delta 12, 26-22n-4e	¶2	2272
Tensas Delta 28, 3-21n-4w	¶4½	2176
J. E. Farrell, State of La. 33, 36-21n-4e	¶1½	2210
UNION PARISH—(Monroe)—		
Southern Carbon Co., Grayling 10, 9-21n-4e	¶10½	2147

*Failures; †Junked; ¶Million cu. ft. gas.

Below 8,000 Feet

RECORD NORTH LOUISIANA SEVEN-INCH CASING SET

Shreveport.—The longest string of casing ever cemented in North Louisiana or Arkansas set last week in Ohio Oil Company's R. L. Holloway 6, NE SW 23-21n-10w, at 8483 feet when a string of 7-inch OD casing was landed by the well crew. Total depth of the well is 8500 feet, the greatest depth ever attained in this territory. Setting of the string of casing definitely commits the company to continuing the well to the original goal of 10,000 feet and eliminates the possibility that immediate attempts will be made to make the well a producer in the shows it had below 8000 feet. Of course the well may be plugged back and perforated.

Another test in North Louisiana passed the 8000-foot mark last week, the only other hole aside from Ohio Oil Company's to ever reach this level. This was Sugar Creek Syndicate and associates' Darrett 2, SE SW 31-20n-5w, a proposed 9000-foot test in the Sugar Creek gas field of Claiborne Parish, a unitized field.

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WELL TOOL & SUPPLY COMPANY

SHREVEPORT, LOUISIANA

Lake Charles—Houma—Converse
Rodessa—Monroe—Turnertown
Greggton

ducing Company has a geophysical crew working in township 16 north, range 5 west near the discovery oolitic lime gas well of Lide & Creer which is in Section 12-16n-5w. Seaboard Oil Corporation is taking lease in township 14 north, range 5 and 6 east and Sun Oil Company is taking leases in township 16 north, range 10 west. In the same parish, R. O. Roy of Shreveport has made location for Dunn & Olsen 1, north half northwest quarter 15-16n-10w, on the same block on which he drilled a 3050-foot test about a mile northwest of the new location.

In Bossier Parish, a few miles northeast of Shreveport, W. P. Leonard, Jr., plans a 5000-foot test by November 15 on a block in township 19 north, range 13 west. United Gas Company has a shooting unit working around the Sligo gas field in township 17 north, ranges 11 and 12 west.

Burks White who has been leasing in Claiborne Parish has taken part of Ryan Petroleum Company's block in township 20 north, range 7 west and also taken some leases directly from the landowners. In township 21 north, range 8 west, Standard Oil Company of Louisiana has a geophysical crew working and Phillips has a unit in 23 north, 6 east.

The spudding date for a test on a 12,000-acre block assembled for Seaboard Oil Corporation in townships 14 and 15 north, ranges 3 and 4 west, Jackson Parish, has been postponed from August 1 to November 15 and part of the block is reported to have been assigned for a test.

In Morehouse Parish, townships 22 and 23 north, range 6 east, Emmett Wyche has taken over 5000 acres and in townships 19 and 20 north, ranges 6 and 7 east, Gulf Oil Corporation has several thousand acres, in which vicinity United Gas Company, Arkansas-Louisiana Gas Company, Superior Oil Company, Eastern Texas Production Company and The Hunter Company have also been leasing. Phillips Petroleum Company has two geophysical parties in this parish and Tide Water Oil Company has one.

Superior Oil Company has taken 2500 acres in Richland Parish in township 18 north, ranges 6, 7 and 8 east. Webster Parish, W. D. Ambrose will drill three immediate tests in the new Sibley gas-distillate area, recently discovered below the anhydrite in the Glen Rose. Two of these tests will be for Phillips Petroleum Company and one for Federal Petroleum Company, the location for the latter probably to be in NE SE 34-18-9w.

Tide Water Oil Company has bought from Danciger Oil & Refining Company the west 40.5 acres of a 50.5-acre S. D. Wiggins tract in the B. E. Elliott No. 347 Survey, Cass County, Texas, part of the consideration being cash and part from production.

Some geophysical activity continues in the East Texas border counties. Near Lodi, Marion County, Tide Water Oil Company has a shooting crew at work. Sinclair Prairie Oil Company is leasing in Bowie County near Redwater, and Stanolind Oil & Gas Company has sent a seismograph unit back to this county to work near Naples. In Harrison County, Arkansas Fuel Oil Company's shooting crew is still working around the shallow Waskom gas field and in the west part of the county Sinclair Prairie is running a profile east of Hallasville. Amerada Petroleum Corporation has a seismograph unit near Harleton. Pure Oil Company has leased approximately 1000 acres in and around the S. B. Hendricks Survey. In the same county, southwest of DeBerry around the Winny Mann Survey, in which survey three 2100-foot wells of small capacity were completed a year or two ago, Wickwire and Mitchell of New York have assembled approximately 5000 acres for a 2500-foot test.

In Shelby County near the Panola County line, Shell Petroleum Corporation has a shooting crew.

Shreveport.—Twelve drilling permits were issued last week by the minerals division of the Louisiana Conservaton Commission of which eight were for North Louisiana, divided among the following parishes: Caddo, 6, including 3 in Rodessa; Grant, 1; and Morehouse, 1. The 4 in South Louisiana were divided among the following parishes: Acadia, 1; Calcasieu, 1; Cameron, 1; and Iberia, 1.

Permian Widened

THIRD SNOW HILL WELL IS 100 FEET SHALLOWER

WEEKLY STAFF REPORT

El Dorado, Ark. — Extending the Permian lime producing area approximately ½-mile west in the direction of the shallow Smackover field and into the section in which V. K. F. Drilling Company drilled the shallow discovery well of that field in 1922, Phillips Petroleum Company last week completed L. W. Harris 1, SW NE 28-15-15, Ouachita County, Snow Hill area, flowing 33.9 barrels of distillate and making 4,500,000 cubic feet of gas in 24 hours at 4807 feet, approximately 100 feet above the other two Permian lime producers in that area. Furthermore, the new well was completely free of water.

During the first 15 hours the new well made 35 barrels of white distillate and 3 million feet of gas with casing pressure 1350 pounds and tubing pressure 1235 pounds through ½-inch tubing choke. Nine-inch casing was cemented at 4789 feet. Elevation is 99 feet.

The same company has cemented 9⅝-inch casing at 4914 feet in Arnolds 1, NE SW 27-15-15 which was cored to 5087 feet, and has moved in materials for a wildcat in southwest Union County, E. Morgan 1, Section 18-18-17.

Lack of effective porosity in the top of the Permian lime in the newly discovered gas-distillate producing horizon is blamed for the disappointment of this zone in the Snow Hill area.

According to reliable geological data gathered from the cores taken and studied, this lime was originally exposed to surface water that made it only partly porous and oil and gas accumulated at the higher places. In this lime it did not completely displace this water, hence the appearance of the salt water at Snow Hill.

However, since there should be satisfactory gas production as in most of the tests drilled so far, slightly below the top of the lime there is a consistently porous section of approximately 15 feet, filled with gas, distillate and a small percent of water.

Proving of the existence of oil and gas in this horizon, thereby giving indications of its possibilities elsewhere particularly around the flanks of Trinity highs has been of utmost importance.

Benedum & Trees Oil Company after finishing a seismograph exploration of its 15,000-acre block near the old Stephens field in Ouachita County on which it drilled a 5200-foot test well into the Travis Peak, is planning to drill a 6000-foot test to spud by August 15.

In Ashley County, Sun Oil Company's leases in township 18, ranges 8 and 9 are reported now to total approximately 5000 acres. In Columbia County, in township 19, range 18, John Magale has exercised his option on 10,000 acres which he held under geophysical option. East Texas Petroleum Company is reported negotiating for this acreage. In the southwest part of this county approximately 2500 acres have been taken by H. L. Hunt, Incorporated.

El Dorado, Ark.—Only one drilling permit was issued last week in Arkansas, this being in Sebastian County, Ozark Natural Gas Company's J. N. Ewing Estate 1, center SW SE 23-8n-29w.

ARKANSAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CALHOUN COUNTY—		
Ben G. Barnett, Freeman Smith 1, 15-14-10	*	5519
OUACHITA COUNTY—		
Phillips Pet. Co., Cheatham 1, 28-15-15	34 & ¶4½	4807
Carnes & Harrell, Robertson 1, 7-12-19	*	2415

*Failures; †Junked; ¶Million cu. ft. gas.

Curb Drilling

PRORATION RESTRICTS LEA COUNTY TO NECESSARY WORK

WEEKLY STAFF REPORT

Hobbs, N. M.—Reduction of proration allowable of Lea County wells at bi-monthly intervals in order to hold the state's crude output reasonably close to market demand and figures recommended by the Bureau of Mines threatens to curb drilling in the Monument, Eunice and other active areas. Allowable for the county cannot be stepped up sufficiently each period to absorb new completions. This accounts for the fact that wells in areas prorated on a flat basis started the current year off with an allowable of 115 barrels daily each, and effective July 16 the allowable was only 93 barrels daily per well. Further reductions are most likely to result from pending completions. The average crude yield per well at Hobbs is 87 barrels daily, while at Monument 154 wells average 91 barrels daily.

Lea County wells cost approximately $40,000 to drill and equipment for flowing production. Each cut in the allowable prolongs the payout period. Routine well additions by large property owners do not earn sufficient allowable to offset the periodical cut in allowable of old wells. Operators do not contemplate suspending field work, as offsets must be taken care of in spite of the economics of the situation, but will in all probability show less interest in stepping out into virgin territory until the earnings of individual wells improve.

Only four new locations for Lea County were recorded the past week. Two were in the Monument field, and one each at Eunice and South Jal. In the former area, Amerada Petroleum Corporation has started work on State 2-U, C NW NW 32-19s-37e, and Tide Water Oil Company has moved out ¾ mile southeast of the main field in locating Anderson 1, C NW SE 8-20s-37e, on 80-acre tract that requires production by November.

Anderson-Prichard Production Corporation, Oklahoma City, reported a second big well in process of completion late last week on its H. M. Britt-Conoco permit near the southeast edge of the main section of the Monument field, after recording a big well the previous week. This concern's Britt-Conoco 3-A-7, SE SW NE 7-20s-37e, gauged 350 barrels per hour through 1¼-inch choke on casing at 3879 feet, with an elevation of 3879 feet, and is preparing to run tubing to complete. Britt-Conoco 4-A-7, C NW NE 7-20s-37e, reported last week with a flow of 534 barrels per hour, based on 30-minute gauge through 2-inch choke on casing from lime at 3811-3877 feet, flowed 193 barrels per hour for 2 hours through open tubing after producing 800 barrels to dissipate the head. Production was advanced one location to the southwest in the Monument field when Amerada Petroleum Corporation's State 2-S, C SW SW 2-20s-36e, flowed 508 barrels natural on 10-hour gauge through 1-inch tubing choke from lime at 3920 feet, or 315 feet subsea. Installation of packer on tubing at 3830 feet reduced gas flow to 1,180,000 feet daily.

In the northeast portion of the Monument field, Tide Water Oil Company's State 2-F, C NE NW 20-19s-37e, was drilled to 4026 feet, or 323 feet sub-sea, and swabbed 10 barrels hourly. It will be acidized. The same company's State 1-H, C NW SW 32-19s-37e, flowed 52 barrels hourly on gas lift at 3906 feet after acidizing, and then flowed 27 barrels per hour without the aid of gas lift. Rig has been skidded one location east to drill State 2-H. Skelly Oil Company's State 1-E, C SE NE 29-19s-37e, east side location, responded to acid treatment at 3960 feet with a flow of 12 barrels per hour through tubing choke, but quit flowing, and may be treated again with acid. Shell Petroleum Corporation's State 1-F, south offset, flowed 185 barrels oil in 13 hours after using 2000 gallons of acid at 3943 feet, with an elevation of 3619 feet, and is testing results of second treatment with 4000 gallons of acid solution.

The Texas Pipe Line Company is absorbing the output of the Monument field, limited to 14,017 barrels daily during the last half of July, except Gulf Oil Corporation's 2207-barrel daily allowable, which is handled by Gulf Refining Company, pipe line division. Gathering systems have been installed by Amerada Petroleum Corporation, Sun Oil Company and Repollo Oil Company to deliver crude produced by their respective leases that are isolated from The Texas Pipe Line Company's lines.

The erratic sandy-lime area to the east of the town of Jal registered another prolific oil producer when Harry W. Leonard et al's B. T. Lanehart 2, C SE NW 21-25s-37e, blew in at 2913 feet, or 154 feet above sea level, with flow rated at 285 barrels per hour through partly opened valve on casing. The well started off making gas, and drilled itself in to become the shallowest oil producer in the sandy-lime area. Leonard et al's Lanehart 1, east offset, was completed last April flowing 44 barrels of oil and 4,880,000 feet of gas daily from pay at 2991-3007 feet, and has dropped to 30 barrels daily. Humble Oil & Refining Company's Lanehart 1, a south offset to the new producer, missed the upper pay, and was completed at 3359-67 feet, with the hole bottomed at 3565 feet, flowing 72 barrels daily after shot. Repollo Oil Company's Stuart 1, SE NW SE 10-25s-37e, north offset to big well developed last May by Culberson, Erwin and Stovall, is showing for a small producer at 3310 feet, or 16 feet below the depth of the big well.

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Company's State-Catron 1-L, C SW NW 11-21s-36e, situated near the east edge of the Eunice field, with a natural flow of 40 barrels per hour through tubing at 3877 feet, or 297 feet sub-sea, will require 4 direct offsets and possibly more than a dozen progressive offsets. Continental Oil Company's State 1-D-15, C SE NE 15-21s-36e, gauged 60 barrels hourly natural on ¾-inch choke on tubing from lime at 3718-3800 feet. The hole is bottomed at 3885 feet, or 301 feet sub-sea. Gulf Oil Corporation has made location for State-H. W. Leonard 1, C NW SW 22-21s-36e.

Landreth Production Corporation's E. H. Grizzell 1, C SE SW 5-22s-37e, situated on a line between production from sandy-lime to the north and south of the town of Eunice, was awaiting nitro shot at 3780 feet, or 343 feet sub-sea, after showing for 150 barrels daily.

MONTANA

Great Falls, Mont.—Two wells finished and three new locations were released in the Cut Bank field, Glacier County, northern Montana. Wilkinson's Alloted 127 1, NE NE 1-32n-16w, came in swabbing 200 barrels initial. Total depth was at 3025 feet and oil rose 2000 feet in the hole. The Cut Bank sand was had from 3005-3022 feet. It is expected to make 100 barrels on the pump in settled production.

Montana Headlight Company's Yunck 6, CSW NW 1-34n-6w, swabbed 32 barrels oil. It was then shot and is cleaning out. Hole bottoms at 2781 feet.

Three new wells spotted in the field this week include: H. S. Patterson's Simero 1, CSE NE 1-33n-6w; Texas Company's Hardwick 1, CSE NE 17-32n-5w, and the Montana Power Gas Company's Robb 1, NW SW 9-33n-5w.

Dry Creek Field

Ohio Oil Company is preparing to deepen Northern Pacific 1, NE SW 11-7s-21e, to the Dakota sand, in the Dry Creek field, Carbon County, southern Montana. This well finished in 1929 for 9,000,000 cubic feet daily of gas in the second Frontier sand with total depth at 4469 feet. It is located to the southwest of Northern Pacific 2, NE NW SE 11-7s-21e, discovery well in the Dakota, which completed for 2300 barrels daily of 52 degree gravity oil in 1930.

Kevin-Sunburst

Two small wells completed in the Kevin-Sunburst field, Toole County, northern Montana, with no new wells starting. Continental Oil Company's State 9, SW SE 16-35n-2w, was shot and acidized without increasing production above 3 barrels daily. Hole bottoms at 1563 feet.

Coolidge & Coolidge's Hanlon 1, SW SW SE 26-36n-2w, is a 10-barrel well at 1860 feet.

Tulsa.—Shell Petroleum Corporation and O. P. Darsey have each acquired leases in southwest Pontotoc County, near the Garvin County line. This is wildcat territory, the tracts taken being in Sections 16, 19, 20, 22, 29 in T3n-R4e. In Sections 12, 13, 14-3n-5e, other tracts have been acquired.

Wichita.—The annual field trip of the Kansas Geological Society is scheduled to start from Kansas City, Missouri, September 4. A detailed study of Permian and Pennsylvanian strata between the Missouri group and above the Big Blue group is planned. A. M. Meyer, Wichita, is chairman of the committee arranging the field work.

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NEBRASKA

Two tests starting in western area

Tulsa.—Sioux and Dawes Counties, extreme western Nebraska, are each reporting a wildcat test preparing to drill. United Producers Oil Company is preparing to spud Morgan 1, CSW SW 32-35n-56w, on Antelope Anticline, a Sioux County test that is headed for the Sundance sand. Cable tools are being used. Same operator's Palmer 1, NW SW 1-22n-50w, Dawes County, is another test to the same strata. It is reported that the newly formed organization has acquired more than 85,000 acres in the two counties, which are considered to be on the general easterly trend from the prolific Sundance production of the Lance Creek pool in eastern Wyoming. An added incentive has been given the company drilling Nebraska's first commercial oil producer, by the state offering a bonus of $20,000 to the operators completing the well. Certain specifications in regard to production must be satisfied. At present the state is without commercial oil production, although a number of tests have been drilled, particularly in the southwest part of the panhandle.

MOUNTAIN STATES Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
H. R. Pattterson, Miller 1, ne ne 1-33n-6w	241	2885
Par Oil Co., Haines 7, cnw sw sw 2-34n-6w	35	2882
Montana Power Gas Co., Mueller 1, se se 7-35n-5w	*	2945
Winkler 1, cse se 28-33n-5w	50	2051
PONDERA COUNTY (Pondera Field)—		
Wm. Fulton, S. Price 1, sw ne ne 18-27n-4w	*	2049
WYOMING		
CARBON COUNTY (Oil Springs Structure)—		
Ohio, Baker 1, nw nw sw 2-23n-79w	¶½	560
NIOBRARA COUNTY (Lance Creek Field)—		
Continental, Schuricht 1-B, cnw se 6-35n-65w	2400	3949
Apex 3, Account 2, cse nw 34-35n-65w	1000	4026
NEW MEXICO		
LEA COUNTY—(Cooper Field)—		
Southern Oil Corp.-Sam Yingling, Vaughan-Conoco 1, c sw se 15-24s-36e	1200	3609
LEA COUNTY—(Eunice Field)—		
Atlantic O. P. Co., State-Catron 1-L, c sw nw 11-21s-36e	960	3877
Continental Oil Co., State 1-D-15, c se ne 15-21s-36e	3500	3885
LEA COUNTY—(East Jal Field)—		
Gulf Oil Corp., J. A. Stuart 1, c sw ne 10-25s-37e	217	3431
LEA COUNTY—(North Jal Field)—		
Byrd-Frost, Inc., E. J. Wells-Conoco 1-A, c nw sw 1-25s-36e	100	3460
LEA COUNTY—(Monument Field)—		
Amerada Pet. Corp., State 2-S, c sw sw 2-20s-36e	3000	3920
Anderson-Prichard Prod. Corp., Britt-Conoco 4-A-7, c nw ne 7-20s-37e.	12,000	3877
Gulf, G. C. Matthews 2, c sw se 6-20s-37e	350	3885
J. R. Phillips 1, nw nw ne 31-19s-37e	2000	3915
Tide Water, State 1-H, c nw sw 32-19s-37e	1000	3906

*Failures; †Junked; ¶Million cu. ft. gas.

Deepening Helps

QUEALY FLOWS 450 BARRELS
HIDDEN DOME WELL

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Casper, Wyo.—Deepening of the discovery well in the Quealy Dome field, Albany County, resulted in a 450-barrel daily flowing well this week. The well, The California Company's Holst 1, NE SE SE 13-17n-77w, drilled to 3263 feet in the Dakota sand. The well originally completed in April, 1935, for 600 barrels daily on the pump with 5 feet of Dakota sand drilled between 3221-36 feet. The company's Wilson 2, CSW SW SW 18-17n-76w, was drilling at 1620 feet.

A test nearing completion on the Big Medicine Bow Dome field, Carbon County, south central Wyoming, is the Ohio Oil Company joint with the California Company's Union Pacific 2, CNE NE 35-21n-79w. It is shut down at 5586 feet waiting on cement to set around the 7-inch production string set at 5508 feet in the top of the first Sundance sand in which good oil and gas saturation was cored.

Ohio Oil Company and The California Company's Union Pacific 3, CNE SE 23-21n-79w, Big Medicine Bow field, is drilling at 5282 feet.

Recent wildcat start of Ohio Oil Company in the Big Hollow area, 8 miles west of Laramie, in Albany County, southern Wyoming, Elisabeth Stiles 1, SWc 21-15n-75w, is cementing 10-inch pipe at 72 feet.

In the Rock River field, Carbon County, Ohio Oil Company's State 4, SWc NE NE 34-20n-78w, is drilling at 3188 feet headed for the Sundance sand. This is a deepening job from 3070 feet in the Dakota where it completed in 1920 for 1200 barrels. The company's Diamond Cattle Company 7, N 35-20n-78w, is drilling at 2929 feet.

Tri-State Area.

Mountain Fuel Supply Company's wells in the tri-state area—Wyoming, Colorado and Utah, report at routine stages. W. T. Nightengale 1, SW NE NW 32-16n-104w, an extension test a quarter of a mile southwest of the nearest gas well in the South Baxter Basin gas field, Sweetwater County, southwestern Wyoming, is drilling at 1942 feet. State 1, NW SE SW 16-3n-24e, in the Clay Basin field, Daggett County, northeastern Utah, is drilling at 1550 feet. Kuykendall 1, NE NE SE 22-12n-100w, in the Hiawatha field, Moffat County, Colorado, is at a total depth of 2495 feet and underreaming at 2475 feet, to lower 4¾-inch casing. Allen 1, NE SW SE 32-12n-97w, Powder Wash structure, Moffat County, northwestern Colorado, is drilling at 390 feet.

A failure and an oil well completed in the Osage field, Weston County, northeastern Wyoming. Charles Stough's 2, SWc SW NW 4-46n-63w, is pumping 10 barrels of oil from broken sands from 225 feet to 305 feet.

H. D. Wiltse's 8, Center North Line NW NE 17-46n-63w, was dry at 400 feet.

Eastern Wyoming.

For the first time in several weeks operations in the Lance Creek field, Niobrara County, eastern Wyoming, report routine. Ohio Oil Company's Carrie Putnam 5, CNW SW 33-36n-65w, is drilling at 2392 feet.

Ohio's Lamb 8 Account 2, CSW NE 5-35n-65w, is still waiting for official gauge from the basal Sundance at 3951-4050 feet where it flowed at the rate of 40 barrels per hour before cleaning. Total depth is at 4047 feet in the red beds.

MacKinnie Oil & Drilling Company's Mary Thompson 1, NE SW NE 7-35n-65w, south extension test to the Sundance pool at Lance Creek, is drilling at 3367 feet.

On West Mule Creek, Niobrara County, Chester Oil Company's 1, NE NE NE 14-39n-61w, is drilling at 787 feet.

Flowing 30 barrels per hour or 720 barrels daily, Bruce C. Teeters finished Government-Brome 2, SW SW SW 30-48n-90w, for a record completion in the Hidden Dome field, Washakie County, northern Wyoming. Hole bottoms at 1543 feet in the sand with the production string set at 1535 feet.

Second failure for the Waugh Dome field, Hot Springs County, was seen this week when California Exploration Company plugged and abandoned Government 2, NW SW NW 7-44n-96w. This test failed to show commercial production in the Embar formation where it was tested through casing perforations. Total depth was at 4545 feet where it was plugged back and tested by stages in the Tensleep. Last week it was plugged back to where the 6⅝-inch casing was cemented at 4040 feet in the Embar and casing was shot with perforator gun.

Ohio Oil Company is coring the Tensleep sand at 5367 feet n Robert Till 1, CSE SW 24-56n-97w, in the Byron field, Big Horn County. The objective sand was topped at 5333 feet. The top of the Embar lime at 5260 feet showed oil saturation and the 7-inch casing was cemented at this depth. The company's Orson Vail 1, CNW NE 23-56n-97w, same field, is drilling red beds at 4077 feet.

In the Grass Creek field, Ohio Oil Company is still changing over to cable tools and rigging up pumping gear, preparatory to drilling in and completing Mill Iron Cattle Company 73, NE SW 19-46n-97w, Hot Springs County. The 7-inch production string is cemented at 3840 feet where the Embar lime is topped. Total depth is at 3857 feet in the Embar. Saturation in the Embar was found at 3854 feet.

Peter Evanoff's McAllister 1, Lot 40, NW NE SE 3-56n-97w, in the Byron field, Big Horn County, is running the 6¼-inch casing to 2720 feet on top of the Peay sand where a good showing of oil has been encountered.

Peay Oil Company's (Crosby & Huntington) Denio Mining & Milling Company lease 1, CNE NE NE 15-55n-97w, on the south fault block of Garland anticline, Big Horn County, is running the 6¼-inch casing. Hole bottoms at 3890 feet.

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Outpost Produces

MAY EXTEND KERN FRONT OR MAY BE DISCOVERY WELL

WEEKLY STAFF REPORT

Los Angeles.—American Exploration Company's Exploration 1, 10 miles north of Bakersfield, Kern County, was completed July 15 pumping 150 barrels a day of 13 gravity oil cutting 5 percent. Located in the northwest corner of Section 16-28s-27e, the well is about 1 mile northwest from the nearest previous production in Kern Front field and 1½ miles south of the productive McVan area. This completion is hailed as having extended Kern Front field, but it may be the discovery of a new area. Depth is 2862 feet and 8⅝-inch water string is cemented at 2813 feet.

Chanslor-Canfield-Midway Oil Company's well No. 17, 3 miles southwest from Taft, Kern County, is flowing, with pump agitation, 1807 barrels a day of 18.2 gravity oil cutting 0.5 percent, and 250,000 cubic feet of gas. This well was completed June 21 pumping 420 barrels a day of 17.8 gravity oil cutting 10 percent. Depth is 2105 feet, with 10¾-inch water string cemented at 1425 feet. This project was bottomed in the second zone of the brown shale and is reported to be producing from both the first and second zones. It is in Section 21-32s-23e, at the southwest edge of the field, and is by far the best completion this area has known, both in quantity and gravity of output.

Sequoia Oil Company has staked location for No. 1 as 250 feet east from Chanslor-Canfield-Midway Oil Company's No. 17, above, at approximately 1600 feet north and 50 feet east from the southwest corner of Section 22-32s-23e.

Test is Disappointing

Union Oil Company's Battles 1, 1½ miles southeast from Santa Maria, Santa Barbara County, has increased production by pump agitation to 1650 barrels a day of 16.3 gravity oil cutting 0.7 percent, and 250,000 cubic feet of gas. The flow is through 56/64-inch choke, with tubing and casing pressures of 55 pounds and 100 pounds, respectively. This well was something of a disappointment when completed July 6 flowing 350 barrels a day, due to the fact that it is only 660 feet south from the discovery well, Union Oil Company's Adam 1, which was completed April 1 flowing 2376 barrels of oil and 140,400,000 cubic feet of gas daily. Depth of Battles 1 is 2738 feet, and 8⅝-inch water string is cemented at 2133 feet. Production in this new field is from fractures in the Monterey shale (middle Miocene) at and near its unconformable contact upon the eroded Franciscan metamorphics (Jurassic).

Associated Oil Company has staked location for No. 1 in the Rio Bravo area 18 miles west of Bakersfield. Although it may prove of no structural significance, this well is located near the center of a northwest-southeast line between Shell Oil Company's K. C. L. 1, the discovery well of Ten Section oil field, and the south dome of Buttonwillow. The latter area has been extensively explored but no production has been developed there. This well is also 6 miles west and 1½ miles north from Ohio Oil Company's K. C. L. D-1, which is being drilled and cored in sand and shale at 8633 feet.

Pure Oil Company's Chowchilla 4, Chowchilla gas area of Madera County, has been drilled and cored to 5490 feet and preparations are being made to abandon. The well is in Section 20-10s-14e. This is the Pure Oil Company's fifth well in the area, others having been drilled in Sections 6, 7, 8 and 17 of the same township. Each of these wells, with the exception of Security 1 in Section 6, was completed on a test producing in excess of 10,000,000 cubic feet of gas.

Chanslor-Canfield-Midway Oil Company's Del Amo 23, Torrance field, Los Angeles basin, is still wet after several unsuccessful attempts to exclude water in the basal conglomerate zone (basal Modelo, upper Miocene) and the bottom of the hole will be abandoned. This project was a deep test of the conglomerate zone overlying the basement schist near the center of the field. Depth is 4887 feet and the top of the schist (Franciscan-Jurassic) was encountered at 4837 feet.

Redondo Wildcat Coring

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CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
HUNTINGTON BEACH—		
Texas Co., Towers 6	71	4320
SEAL BEACH—		
Associated Oil, Hellman 18	360	6605
NORTH BELRIDGE—		
Union Oil Co., Belridge 20	400	8306
FRUITVALE—		
H. L. & J. Oil Co., Neff 1	50	3762
Tarr & McComb, Fairhaven 3	30	3109
Western Gulf Oil, Parker 4	700	3634
KERN FRONT—		
Amer. Explor., Well 1	135	2813
KETTLEMAN HILLS—		
Kettleman No. Dome No. 24-34J	1000	8090
MIDWAY SUNSET—		
General Pet., Moco No. 35	108	2043
ROUND MOUNTAIN—		
Barnsdall Oil, Caldwell No. 9	215	1887
Honolulu Oil, Well No. 34	240	2047
Well No. 56	250	1946
Shell Oil, Caldwell No. 5	275	1548
Freeman 10	64	1645
SANTA BARBARA—		
Shell Oil, Covarubias One-15	282	1739
VENTURA COUNTY—		
Bolsa Chica Oil, Snow No. 4	360	3301

*Failures; †Junked; ¶Million cu. ft. gas.

1, wildcat well in the El Nido district 2 miles northeast from Redondo Beach, is being cored ahead at 4196 feet in shale with streaks of oil sand and gray sand. The oil sand streaks from 3600 feet to 3775 feet contained heavy oil, while the streaks from 3800 feet to bottom have contained lighter oil. This project is located in Section 33-3s-14w, about ½ mile southwest from Shell Oil Company's McKenna 1, which encountered 80 feet of oil stained conglomerate zone overlying the schist at 7235 feet. Production was not obtained and the well was abandoned. The present project, so far as is known, will encounter the conglomerate and schist at points up the dip from those of McKenna 1.

McDowell Oil Company's McDowell Community 1, 2 miles due east of Shell's Lloyd-Dabney 1 in Section 35-3s-14w, is being cleaned out at 2200 feet and will be deepened to the conglomerate zone. This well was suspended several months ago at 4633 feet.

Multiple Stage Cementing

DeAugustine-Abrams-Daly Oil Company's Barnett 1, at the southeast edge of the East Coyote oil field, Orange County, is being tested for water shut-off. The multiple stage cementing process was used in this well, in which the 8⅝-inch casing was cemented at 2738 feet for water shut-off and cemented through perforations by the multiple stage method at 813 feet. This latter was done with the approval of the state division of oil and gas in lieu of cementing a separate string of surface casing to protect the fresh water horizons from contamination. Depth is 2811 feet in oil sand. This same method of fresh water protection combined with casing economy has been successfully utilized by the Union Oil Company in recent wells on the Chapman lease, Richfield field.

Holbrook Petroleum Corporation's Newhall Land & Farming Company 1, 30 miles northwest of Los Angeles and 2 miles west of Saugus, was drilled to 1598 feet and an electrical logging device was run as an aid in picking a point at which to cement the surface casing. This method of picking the first substantial shale body below the lowest fresh water horizon is new to Southern California and may develop into the usual practice in wildcat areas.

Republic Petroleum Company's Republic-Trust 1, Rosecrans field, 10 miles south of Los Angeles, is being cored ahead at 6072 feet in oil sand with streaks of shale. A test with a formation tester of the interval 5883 feet-5955 feet recovered 7½ stands of oil and 1½ stands of mud and water during the 25 minutes the valve was open, and gas reached the surface in 6 minutes. The water contained only 180 grains of salt per gallon. This project is a semi-wildcat test of the area west of the main fault at the southwestern edge of the Central Area, Rosecrans field, in Section 18-3s-11w. Another formation test will be made as soon as a substantial shale body is encountered.

More asphalt is produced from crude oil than from any other source.

OPENS NEW AREA

Wildcat producer is eight-mile extension

MICHIGAN

WEEKLY STAFF REPORT

Mt. Pleasant, Mich. — Goll, Graves, Mechling's Oard 1, 18n-1w-25, Buckeye township, averaged 15 barrels daily with the swab while deepening from a Dundee pay at 3566 feet to 3670 feet and water. Test was being plugged back about 15 feet this week and will be acidized.

Located 8 miles northeast of the Beaverton pool, and 30 miles southwest of the West Branch field, Oard 1 may open a new producing area. Dundee was logged at 3496 feet with oil saturation 63 feet in the lime. First water was picked up 184 feet in the lime.

K. B. Montigel's Loree 1, 9n-5w-18, Montcalm County, 2 miles south and ½-mile east of a small Dundee lime producer near Vickeryville, showed oil at 2723 feet and flowed wild from the Traverse lime for 20 minutes on July 21 while 5-inch casing was being run. Operators plan to test the Traverse pay before resuming drilling for a Dundee test.

In Tuscola County, Dr. Virgil R. D. Kirkham's Boyce Farm 1, 14n-7e-24, pumped between 30 and 35 barrels on an 8-hour test after acid and tubing. Lime was logged at 2604 feet and the test drilled into water at 2893 feet and was plugged back to 2850 feet.

To Import Crude

A half-dozen deals to bring Mid-Continent crude into Michigan to augment the local supply for independent refineries continue to be reported but so far no outstate oil for the independents has come in.

John Borden, president of Old Dutch Refining Company, Muskegon, Michigan, said he had closed contracts for the purchase of between 1000 and 3000 barrels of crude daily from the Southwest to augment his Michigan supply. Old Dutch Refining Company has a $200,000 vapor-phase cracking and reforming unit under construction.

Detroit, Alma and St. Louis independent refineries also are negotiating for Mid-Continent crude. All the plans follow the same general course. Buckeye Pipe Line Company has a line into Flat Rock, Michigan, for Socony Vacuum Oil Corporation and Mid-Continent lines come into Chicago. Transportation from Chicago could be handled by barge up the Great Lakes to Muskegon, a lake port. Crude brought into Detroit would have to be moved by rail.

Michigan's present production is averaging about 32,000 barrels daily, with about 20,000 barrels going to Ohio refineries through the Pure Oil Company and Standard Oil Company systems. Michigan independent refineries claim a demand for about 30,000 barrels of crude daily.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ISABELLA COUNTY—		
Hyatt & Norton, McNeal 1, 14n-3w-3, ne nw nw	155	3616
McClanahan Oil Co., Sweeney 3, 15n-3w-33, nw sw se	25	3538
MECOSTA COUNTY—		
Columbia O&G Co., Stebbins 1, c nw se, 13n-8w-25	¶9	1330
MONTCALM COUNTY—		
Fletcher & Leyman, Orr 1, 12n-7w-9, c nw se	¶36	1310
Ide & Glavin, Johnson 1, 12n-7w-9, c ne sw	¶7½	1332
Hyatt & Norton, Wilson 1, 12n-7w-9, c sw ne	¶53	1299
Dawes 2, 12n-7w-8, c ne ne	¶11½	1295
Superior Drilling Co., Smalley 1, 12n-7w-2, c nw sw	¶8½	1268
Wood 1, 12n-7w-9, c nw nw	¶46½	1289
Bellows 1, 12n-7w-3, c sw sw	¶21	1298
R. M. Burch, Peterson 2, 12n-7w-5, c nw se	¶66	1303
W. E. Vass, Bristol 1, 10n-8w-23, se se nw	*	3256

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN FIELDS

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
WASHINGTON COUNTY—		
Williams Bros., S. McLaughlin 6	*	1210
Pollard D. Howiler, Witcherman 13	*	1682
H. W. Windland, Depuy Bros. 2	¶	1540
Wagner & Gerber, M. H. & R. D. Dyer 1	*	1165
Fulmer & Co., Edwin Fulmer 6	5	470
Otto Heldman & Co., Vida Adams 6	¶	1540
Bungard & Co., Mary E. Tice 2	1	1520
Allison & Pickans, Francis S. Cordery 2	1	625
NOBLE COUNTY—		
C. & T. Rich, Daniel N. Murphy 6	¶	1467
Barnesville Dev. Co., Ray Davis 3	¶	1800
Brown & Price, Frank Hrinko 5	¶	297
Harry Mosley & Co., John Blake 4	¶	1390
Hayes Ferguson & Co., P. E. & A. H. Rich 5	¶	1432
BELMONT COUNTY—		
Mike Hardwick, Dortha J. Barr 1	¶	950
Ohio Fuel Gas Co., Henry Girts 1	*	1286
GUERNSEY COUNTY—		
George Jewell & Co., John Rollingson 6	¶	1312
Cambridge Gas Co., Taylor & Slaughter 3	¶	1120
MONROE COUNTY—		
Whitten Creek Oil Co., B. & R. Scott 2	*	1606
MEIGS COUNTY—		
Ohio Fuel Gas Co., Stanley M. Cross 2	¶	2025
Joseph Cogart 1	¶	2079
McKnight & Co., Walter R. Grass 2	*	795
H. M. Holson, May Cook 1	*	825
Rutland Gas Co., Florence Mutchler 9	¶	825
Speary & Co., Harry Plummer 3	¶	741
VINTON COUNTY—		
Kelch Bros., Charles Fuller 2	*	3950
MUSKINGUM COUNTY—		
Ohio Fuel Gas Co., Earnest Epply 1	¶	1278
MORGAN COUNTY—		
Turney & Co., Narcissa Rardin 8	2	446
FAIRFIELD COUNTY—		
City Natural Gas Works, Laura W. L. Wagner 1	¶	2134
PERRY COUNTY—		
Ohio Fuel Gas Co., F. G. Rhodes 1	*	3224
ATHENS COUNTY—		
Ohio Fuel Gas Co., S.C.C. Co. 137	¶	1903
PERRY COUNTY—		
Perry Sturm, E. L. Vansickle 3	¶	2957
Kissling Drl. Co., Lewis Stoltz 5	¶	2845

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

HOUSTON COUNTY—Rice O. & G. Co.'s Oakley Est. 2, se nw sw 9-3n-29e, elev 191 ft, sd for heavier rig 4002 ft. Possible base Tuscaloosa.

MOBILE COUNTY—J. C. Prine's King 1, 4-1n-4w, pb to perf & test 2500-2600 ft, old td 3186 ft. Grand Bayou O. & G. Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

ARKANSAS

BRADLEY COUNTY—Phillips Pet. Co.'s Murphy Land Co. 1, nw nw 12-17-11, elev 91 ft, core dry red sand 4755 ft.

CALHOUN COUNTY—Ben G. Barnette's Freeman Smith 1, se nw sw 36-15-14, elev 89 ft, sd 5519 ft.

CLEVELAND COUNTY—Diffie et al's L. C. Ross 1, sw ne 1-11-11, wocs 100 ft. R. L. Saxon's L. C. Tipton 1, sw ne 13-11-12, dk.

DALLAS COUNTY — McCall & Kelly's Owens 1, nw sw 26-10-16, owdd, td 1456 ft.

LITTLE RIVER COUNTY—M. E. Sanderson's Penning 1, ne sw 6-13-30, sp 10-in 168 ft.

LONOKE COUNTY—J. F. Russell's Gunter 1, se se 17-5-10, mim.

MILLER COUNTY—Deep Rock Oil Corp.'s Williams 1, nw sw nw 6-16-25, elev 232 ft, coring 4213 ft. Joiner et al's Montana Realty Co. 1, nw nw 3-17-28, elev 225 ft, dr 2963 ft. McClanahan et al's Montana Lbr. Co. 1, sw sw 2-20-27, spd.

OUACHITA COUNTY—O. F. Whittaker's Howard 1, 29-12-16, top red beds 2305 ft, dr 2360 ft. J. M. Ferris' G. Dean 1, ne se nw 16-15-17, owdd, td 2997 ft. Edwin M. Jones' J. D. Reynolds A-1, sw sw 27-15-15, pias dug, sd. J. D. Reynolds A-2, sw sw 27-15-15, lcn; E. Murphy 1, ne ne 28-15-15, lcn; E. Murphy 2, nw ne 28-15-15, lcn. Lion O. R. Co.'s Reynolds-Berg 1, se se ne 28-15-15, elev 105 ft, shot csg 4787-4844 ft, tested sw so old td 5247 ft. Phillips Pet. Co.'s Cheatham 1, sw ne 27-15-15, circulating 4910 ft. Phillips Pet. Co.'s Ferris 1, nw se 27-15-15, ru and sd. Phillips Pet. Co.'s Arnold 1, ne sw 27-15-15, elev 207 ft, cemt 9⅝ in csg 4914 ft, woc. Phillips Pet. Co.'s Rose 1, ne se 28-15-15, circulating 4819 ft. Jno. Pugh's Hildebrandt 1, se se 28-15-15, shot csg 4880-4905 ft, tested sw, sd 4935 ft lime.

PULASKI COUNTY—G. L. Kiselman's Fee 1, 2-1-13, spd 10-in csg 100 ft, woc, td 200 ft.

UNION COUNTY—J. C. Buckbee, Tr.'s Ezzell 2, sw ne nw 13-17-15, elev 255 ft, coring 5600 ft. Mrs. Mamie McCurry et al's Slaughter 1, se se 9-17-16, dr 3200 ft anhydrite. Phillips Pet. Co.'s E. Morgan 1, 18-18-17, mim.

CALIFORNIA

FRESNO COUNTY

CANTUA CREEK — Mohawk Pet. Co.'s Langer 1, 30-16-15, lcn. Western Gulf Oil Co.'s S.P.L. 3, 3-17-15, dr sand and shale 7320 ft. Western Gulf Oil Co.-S.P.L. Co. 3, 3-17-15, td 7450 (?) sand and shale, coring.

CURRY MOUNTAIN—Standard Oil Co.'s Camino 1, 1-21-15, td 1578 ft, blue shale and sand.

KERN COUNTY

LOST HILLS—Associated Oil Co.'s Williamson 2, td 1143 ft, cleaning out at 1045 ft.

KERN FRONT — American Explor. Co.'s No. 1, 16-28-27, on pump 7/15, 135 B/D, grav. 14.3, cut 2 percent.

POSO CREEK—Bargol Oil Co.'s Bargol 1, 11-22-27, sd 3324 ft. McAdams Oil Co.'s No. 1, 32-27-28, td 1903 ft, stdg cemtd.

SOUTH MARICOPA—E. A. Bender's Robinson 1, 14-10-23, dr shale 825 ft.

JASMINE—Cochran Oil Co.'s Bishop 1, 31-25-27, dr 2571 ft, brown shale. Doyle Pet. Co.'s Quinn 1, 15-25-27, td 1250 ft, spud 7/13.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, sd 1240 ft, gray shale.

ELK HILLS—Elk Hills Pet. Co.'s No. 1, 14-31-24, dr shale 3620 ft.

ARVIN—General Pet. Corp.'s Swanson 1, 26-31-29, rur.

GRAPEVINE—Hall-Baker Co.'s No. 1, 12-10-19, dr 2259 ft. Ohio Oil Co.'s T. I. T. 1, 36-11-19, dr 4736 ft. Reserve Oil & Gas Co.'s Ritchie 33-2, 33-11-19, shale 2860 ft, coring; Tejon 2-6, 2-10-19, rur.

DOMINION — Modoc Pet. Co.'s Vedder-Bowles 2, 21-26-28, td 1537 ft, rigging to pump. Santa Carla Oil Co.'s Bass Goodknight 1, 19-26-28, gray sand 2050 ft, sd.

MOUNTAIN VIEW—Mohawk Pet. Co.'s Earl Fruit 1, 10-31-29, td 5950 ft, temp susp. Treasure Oil Co.'s Treasure 1, 12-30-28, sd 5390 ft.

STRAND—Ohio Oil Co.'s K.C.L. D-1, 1-30-25, dr sand and shale 8633 ft.

RIO BRAVO—Associated's Well 1, 30-29-25, lcn.

FRUITVALE—Oil Inc. No. 1, 26-29-27, rur.

NORTH BELRIDGE—Rio Grande Oil Co.'s Layman 1, 18-28-20, dr shale 1610 ft.

KERN RIVER—Seven Spot Oil Co.'s No. 1, 13-26-27, td 1228 ft, P.P. 40 B/D, 50 percent cut.

LOST HILLS—Standard Oil Co.'s United 1, 2-26-20, td 6887 ft, fsh.

COMANCHE POINT — Tejon Ridge Oil Co.'s Tejon 1, 23-32-29, td 2462 ft, susp.

SAN EMIDIO—Texas Co.'s K.C.L. C-11-49, 11-11-22, td 8085 ft, shale, coring.

MISCELLANEOUS

ALAMEDA COUNTY—Seaboard Oil Co.'s Johnson 1, 13-3S-3E, rur.

HUMBOLDT COUNTY—Texas Co.'s No. 2, 22-3-1, td 4428 ft, washing over 4-inch drill pipe at 1442 ft.

KINGS COUNTY — Associated Oil Co.'s Avenal 1, 35-23-17, redrlg, td 1956 ft, plugged to 1279 ft. Herndall & Associates' Spreckles 1, 16-24-18, td 4201 ft. Pumping to sump 100 B/D gross, no est.

MADERA COUNTY—Pure Oil Co.'s Chowchilla 4, 20-10-14, td 5490 ft, sd.

MERCED COUNTY—E. R. Fantz's Cunningham 1, 22-7-16, lcn. San Joaquin Oil Co., San Joaquin 1, 1-12S, 11W, rigging up.

SAN BENITO COUNTY—Associated Oil Co.'s Murphy Ranch 1, 5-12-4, rur.

SAN JOAQUIN COUNTY—Amerada Pet. Corp.'s F.D.L. 5, 15-2-5, td 6160 ft, washing perfs. Standard Oil Co.'s McDonald Island 2, 25-2-4, rur.

SOLANO COUNTY—Amerada Pet. Co.'s Happe 1, 22-4-2, rur. Standard Oil Co.'s Anderson 6-1, 35-4-2, rur.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, sd 8060 ft.

TULARE COUNTY—W. H. Fortine's Mosesian 1, 22-27-26, td 3120 ft, testing. Trico Oil & Gas Co., Cal. West 1, 7-23-23, lcn; Callison 1, 27-21-25, lcn.

MONTEREY COUNTY — Shell Oil Co.'s Branch 1, 34-24-10, sd 8994 ft.

SAN LUIS OBISPO COUNTY

ARROYO GRANDE—Avila Oil Co.'s Gibson 1, 10-31-13, td 1350 ft, spud 7/6. Birch-Royer's Tatchett 1, 33-31-13, td 1600 ft, redr. Crail Bros.' Vedder 1, 8-32-13, td 1550 ft, dr. A. T. Jergin Trust's Roderiquez 1, 5-32-13, td 2245 ft, dr; No. 2, foundation. Blue Ridge Oil Co., Carpenter 1, 5-32-13, grade.

CARRIZO PLAINS — Barnsdall Oil Co.'s Wreden 1, 24-28-17, sand and shale, coring, td 3987 ft. J. C. Theriott's Holland 1, 22-32-23, sd 2135 ft.

SANTA BARBARA COUNTY

COAL OIL POINT—Bankline Oil Co.'s No. 2, permit 191, td 3460 ft, shale.

LOMPOC—C. C. Fields' Santa Rita 1, 11-7-33, dr blue shale 1640 ft. Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, sd 3940 ft. York Oil Co.'s York 2-A, 33-8-34, td 1130 ft, shows oil and gas. Top Row Oil Co., Spanne 1, td 175 ft, spud 6/29.

EL CAPITAN—La Canada Oil Corp.'s No. 2, 3-4-30, td 1240 ft, shale, spud 6/26.

BETTERAVIA—E. H. Morris' Union Sugar A-1, 25-10-35, dr shale 5250 ft.

VENTURA COUNTY

BARDSDALE—Bestco Pet. Co.'s Frey 1, 2-3-19, sd 4512 ft, plug 4000 ft. Laying & Jacob's No. 1, td 1275 ft, co. Petroleum Securities Co.'s Elkins 1, 7-3-19, 5627 ft, co. Home Ranch 3, 3-3-19, td 3899 ft, fsh for liner; Home Ranch 4, lcn. Union Oil Co.'s Dryden 10, 12-3-20, td 6561 ft, bailing oil-cut mud.

OXNARD—General Pet. Corp.'s McGrath 2, 26-2-35, dr hard shale 8523 ft; Padre 1, (Javon) 15-3-24, installing elec. equip. Vaca Oil Exp. Co., Cal. Lands 1, 6-1-21, cellar and materials.

SOUTH MOUNTAIN—Honolulu Oil Corp.'s Hobson 1, 23-3-21, dr red shale 1950 ft.

SIMI—Jas. S. Hull's No. 1, 2-2-18, sd 1715 ft.

SESPE CANYON—Merchants Pet. Co.'s No. 1, 1-4-20, bldg tramway. Condor Oil Co., Well 1, 6-4-19, td 1365 ft, reaming. Speik Oil Co., Well 1, td 550 ft, cleaned out cemt. Topo Topo Oil Co., Well 3, 33-15-19, td 2100 ft, dr.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, dr sand streaks shale 8550 ft.

PIRU—Bolsa Chica Oil Corp., Snow 4, td 3301 ft, 400 B/D, gravity 25, cut 10 percent; Snow 3, td 851 ft, rur. R. R. Johnson Corp., Rubel 1, 21-4-18, td 1640 ft, sd.

HOPPER CANYON—Oil Ridge Oil Co., Well 3, td 1661 ft.

SHIELLS—Texas Co., Well 129, 4-3-19, td 4812 ft, sd; Well 130, td 3799 ft, running 3-inch tubing; Well 131, td 3355 ft, flowing thru tester, 137 B/D.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall Oil Co.'s Rancho S. F. 1, 26-4-17, bldg rig. Holbrook Pet. Corp.'s Newhall L&F Co. 1, 26-4-16, dr 1598 ft. Yant Oil Co., Yant 5, 1-3-16, td 2305 ft, shale stks oil sand, drlg; Yant 6, sd.

ARTESIA—M. T. Bernstein's Millard 1, 25-3-12, td 4650 ft, silty shale, dr.

GARDENA—Crude Oil Dr. Co.'s No. 1, 31-3-13, rur.

TORRANCE—Eyer Pet. Co.'s No. 1, 20-4-13, sd 3794 ft, pump 125 B/D, grav. 13, cut 5 percent. Jas. S. Hull's No. 1, 20-4-13, sd 3794 ft. Jas. S. Hull's No. 1, 20-4-13, td 4012 ft, drlg out cement. Codri Oil Co., Well 1, 28-4-13, td 3902 ft, on pump, test 20 B/D, gravity 13, cut 5 percent. McDowell Oil Co., McD. Comm. 1, 35-3-14, td 4633 ft, clg out.

WILMINGTON—General Pet. Corp.'s Terminal 1, 4046 ft, shale and sand, coring; Terminal 2, grade. Harbor Dr. Co.'s No. 1, 33-4-13, td 3566 ft, pumping 140 bbls. Royalty Service Co.'s Banning 11-1, 28-4-13, td 2150 ft, sand and shale.

PUENTE—Numac Oil Co.'s Rowland 2, 14-2-10, td 2545 ft, plugged 2500 ft, pumping 22

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg.—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper.*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so & g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

bbls, 20 gravity oil, cut 5 percent. McVicar-Rood Sentous 1, 6-2-9, td 3120 ft, stg recemtd.

PALOS VERDES — Pamaco Royalty Co.'s Burkhard 1, 2-5-14, rig.

ROSECRANS—Republic Pet. Co.'s Trust 1, 18-3-13, oil sand stks shale, td 6072 ft, coring.

EL NIDO—Shell Oil Co.'s Lloyd Dabney 1, 33-3-14, dr shale, 4196 ft.

EAST SANTA FE—Vanda Pet. Corp.'s Loftus Land 1, 4-3-11, td 1000 ft, stg cmtd.

DOMINGUEZ — West American Oil Co.'s Del Amo 1, 3-4-13, td 9000 ft, plugged bottom.

ORANGE COUNTY — Calif. Eastern Oil Co.'s Verde 1, 35-3-9, dr hard sand and cong. 4350 ft. Hillman & Long's No. 1, 14-5-11, 7701 ft, drlg out cmt. Shell Oil Co.'s Anaheim Sugar 3-1, 7-6-10, dr sand and shale 1238 ft. Geo. Terry's Gun Club 1, 17-5-11, sd 5345 ft.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, (Barshow), 11-10-5, dr blue shale 2533 ft. Melbourne Pet. Co.'s Abacherle 2, 12-3-8, prep to spud. Tehama Pet. Co.'s Kraemer-Backs 2, 33-2-9, 495 ft corr. depth, fsg. Pellisier 1, (Puente Hills) 4-3-8, td 680 ft, stg cmtd.

PALOS VERDES—Pamaco Roy. Co., Burkhard 1, 2-5-14, rig.

LAWNDALE—Signal Finance Corp., Woods 1, 10-3-14, co.

HUNT BEACH—Shell's Anaheim Sugar 3-1, td 2412 ft, siltstone.

SUNSET BEACH—Geo. Terry, Gun Club 1, 17-5-11, sd.

FLORIDA

JACKSON COUNTY—Mrs. Mamie Hammonds et al's Grandberry 1, sw sw ne 15-5n-9w, elev. 124 ft, resetting surf csg td 4385 ft, red shale.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 2, se se 17-24s-25e, coring 4593 ft.

NASSAU COUNTY—St. Mary's River Oil Corp.'s Bank of Hilliard 1, 19-4n-24e, reset surf csg td 345 ft.

KANSAS

BARBER COUNTY—Sinclair Prairie's Gentry 1, ne ne ne 1-33s-15w, dr 40 ft.

BARTON COUNTY—Davison et al's Birzer 1, sw se sw 22-17s-12w, abd 3430 ft. Schermerhorn Oil Co.'s Hunter 1, ne ne ne 29-18s-15w, pb 3530 ft. Wakefield & Johnson's Bumm 1, sw ne ne 22-19s-12w, abd 3550 ft. Rosespring Drlg. et al's Rick 1, sw sw sw 1-19s-11w, dr 3323 ft. Brouk et al's Keil 1, se se ne 11-16s-15w, dr 2940 ft. Rose & Lant's Redetzke 1, ne nw nw 10-16s-11w, dr 735 ft. Yernell & Carlson's Rath 1, ne ne ne 35-18s-12w, dr 200 ft. John Burton et al's Wendel 1, ne ne ne 13-19s-11w, dr 100 ft.

BUTLER COUNTY—Ellis et al's Pettit 1-A, se se nw 21-28s-6e, td 3163 ft, 1000 gals acid, no test. McGinnis et al's Hinnen 1, ne ne sw 18-24s-4e, sd 2545 ft. Dalton et al's Miley 1, csw ne 17-27s-5e, sd 350 ft.

CLARK COUNTY—Olson & Watchorn's Morrison 1, cse sw 17-32s-21w, dr 3591 ft.

COWLEY COUNTY—McKnabb's Community 1, cne nw 14-34s-3e, td 2674 ft, 7M gas, completed. Morton et al's Rogers 1, se se ne 1-31s-4e, ur 8-in, 2040 ft.

EDWARDS COUNTY — Stanolind-Elwell's Donovan 1, cse se 14-25s-18w, ur 6-in, 4460 ft.

ELLIS COUNTY—Rosespring et al's Union Pacific 1, ne ne ne 9-13s-20w, cor 3770 ft. Empire's Herl 1, se se se 22-15s-19w, dr 3100 ft. Jones & Shelbourn's Gunther 1, se se sw 9-11s-19w, 8-in 3625 ft. Vickers Pet. Co.'s Krals 1, sw sw nw 22-14s-19w, fsg 3565 ft. Bradley Oil et al's Penny Wann 1, se se se 13-15s-20w, td 3340 ft, rust. Empire's Samuelson 1, ne ne sw 31-11s-16w, dr 1205 ft. Kansas Dev. Co.'s Haller 1, se se nw 10-11s-18w, td 2918 ft, woc. Bridgeport Mach.'s Ubert 1, ne ne nw 12-13s-18w, dr 1565 ft. Philham Oil Co.'s Gerstner 1, sw sw se 24-14s-17w, dr 1580 ft. Trigg et al's Armbrister 1, se se sw 6-11s-19w, dr 2975 ft. Lario O&G Co.'s Cress 1, ne ne ne 13-11s-17w, lcn. Champlin Ref. et al's Hadley 1, se sw ne 30-11s-17w, br. Lario O&G Co.'s Marshall 1, nw se ne 36-11s-18w, dr 590 ft. Frank Hamilton et al's Sack 1, nw nw se 12-17s-9w, cellar. Twin Drlg. et al's Schmidt 1, sw sw ne 22-15s-17w, dr 790 ft. Murphy Oil Co.'s Wiesner 1, se se sw 12-14s-19w, loc.

ELLSWORTH COUNTY—York State Oil Co.'s Koestle 1, nw nw se 12-17s-9w, dr 2475 ft. Roy Ramsey et al's Gregory 1, sw sw se 25-16s-9w, dr 3110 ft. Carter et al's Kruse 1, se sw ne 31-17s-8w, rr.

GRAHAM COUNTY—Vickers and Phillips' Hutton 1, ne ne se 29-8s-22w, abd 3793 ft.

GREENWOOD COUNTY — McGinnis' Lampe 1, nw ne sw 26-4s-8e, dr 1800 ft. Guy Scott et al's Pedroja 1, se ne se 6-26s-10e, sd 1080 ft.

HARPER COUNTY—Marathon's Zellers 1, csw nw 17-35s-8w, dr 5646 ft.

HARVEY COUNTY—Harburney Oil Co.'s Scrag 1, nw nw se 24-22s-3w, sd 3085 ft. Shawver's Judd 1, sw se ne 3-24s-2e, dr 2865 ft. Phillips' Kaufman 1, ne ne nw 2-22s-2w, rust 3358 ft. Empire's Schmidt 1, nw nw se 31-20s-2e, mim.

HASKELL COUNTY—Helmerich & Payne et al's Jones 1, cse 34-26s-34w, rust 2515 ft.

KINGMAN COUNTY — McBride's Wooldridge 1-A, sw ne se 16-27s-7w, spd.

LINCOLN COUNTY — Graham et al's Smiley 1, ne nw nw 26-10s-9w, rr.

LYON COUNTY—Becker Bros.' Rossillion 1, se sw ne 19-21s-11e, dr 900 ft.

McPHERSON COUNTY — Empire's Cunningham 1, se se se 26-18s-1w, td 2840 ft, 3000 gals acid, 574 bbls oil, comp. Johnson et al's Johnson 1, sw sw nw 33-17s-1w, dr 3220 ft.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, td 3954 ft, woc. Continental's Thompson 1, ce¼ e½ sw 13-18s-26w, ru to dr plugs.

PAWNEE COUNTY—Kessler & Their et al's Gustafson 1, sw sw sw 27-20s-16w, spd. Simpson Oil et al's Gates 1, sw sw sw 13-20s-16w, loc.

RENO COUNTY—Rosespring et al's Swanson 1, ne ne nw 1-23s-5w, td 3954 ft, woc. Dickey Oil Co.'s Shepherd 1-A, ne ne nw 22-26s-9w, pb 4095 ft. Miller et al's Detter 1, ne se nw 28-22s-7w, dr 1580 ft. Pryor & Lockhart et al's Kerr 1, cnw 23-23s-8w, spd. Foraker et al's Hiett 1, se sw ne 34-24s-4w, sd 3190 ft. Continental and Wentz' Snook 1, ne nw sw 10-22s-8w, ru. Graham et al's Miller 1, ne ne se 36-25s-10w, dr 2135 ft.

ROOKS COUNTY — Skaer Oil Corp. & Reese's Dryden 1, ne ne ne 28-10s-17w, td 3657 ft. Lester & Dean's Burtt 1, se se ne 29-10s-20w, dr 2770 ft. Shoemake's Stebbins 1, ne ne sw 26-7s-17w, dr 2610 ft. Helmerich & Payne's Bedard 1, cne 29-9s-19w, dr 3605 ft. L. C. D. Drlg. Co.'s Westhusin 1, cne se 11-9s-17w, dr 1052 ft. Hartman & Blair et al's Hall 1, nw nw nw 25-10s-17w, cor 2195 ft. Tree Oil Co.'s Minx 1, sw sw sw 31-10s-18w, loc abd.

RUSH COUNTY—Boyle & Grossman's Wilson 1, ne ne ne 33-17s-19w, dr 3868 ft. Skeeles et al's Grumbein 1, sw sw ne 7-16s-20w, cellar.

RUSSELL COUNTY—Hartman & Blair's Johnson 1, nw nw nw 11-13s-14w, dr 2023 ft. Lario O&G Co. et al's Steinert 1, nw nw sw 21-15s-15w, dr 2790 ft. Armer et al's Maier 1, ne nw ne 20-15s-14w, dr 1410 ft. Lee & Reser's Benix 1, sw sw se 13-14s-13w, dr 2240 ft. Coralena Oil Co.'s L. A. Sellens 1, nw nw nw 17-15s-13w, loc.

SALINE COUNTY—Ryan Consolidated and Archer's Norton 1, ne ne ne 30-14s-2w, sd 1049 ft.

SEDGWICK COUNTY—Wakefield et al's Howard 1, se se ne 25-25s-2e, sd 295 ft. Lauck's McLean 1, csw se 1-27s-1w, dr 723 ft.

STAFFORD COUNTY—Lebow et al's Wolf 1, se sw nw 3-21s-12w, dr 2335 ft. I.T.I.O.'s Mellies 1, cn½ n½ ne 6-22s-11w, rig.

SUMNER COUNTY—Matthews & Derrington's Berry 1, nw nw se 14-25s-1e, dr 3744 ft. Wilson et al's Clark 1, csl nw 15-35s-1w, sd 4430 ft. Craft & Wilson's Nevitt 1, ne nw ne 36-32s-2e, abd 3570 ft. Texas Co.'s Reed 1, ne se se 11-31s-1w, dr 3302 ft.

TREGO COUNTY—Central Commercial's Wagg 1, nw nw se 17-13s-21w, sd 4505 ft. Hall et al's Deines 1, se se se 12-13s-24w, dr 3045 ft.

WOODSON COUNTY—Lewis et al's Riggs 1, sw sw sw 10-26s-14e, dr 1225 ft. Ladd et al's Millner 1, nw sw nw 34-25s-14e, rum.

SOUTH LOUISIANA

ALLEN PARISH—Humble's Bel 2, Reeves prospect, sec 28-6s-2w, woc 7490 ft.

CALCASIEU PARISH — Fred Oil Co.'s Faist 1, sec 26-8s-10w, sd 3721 ft.

CAMERON PARISH—Magnolia's Hebert 1, Big Lake area, sec 13-12s-9w, dr shale 8858 ft. East Feliciana Oil Corp.'s West & Dudding 1, w of Norwood, sec 57-1s-1w, woc 1469 ft.

IBERIA PARISH—Texas Co.'s State 1, Fausse Point, sec 35-11s-8e, dr shale 3898 ft; same operator's Vermilion Bay B-1, 16s-5e, dr shale 1798 ft.

JEFFERSON DAVIS PARISH—Shell's Lacassine 1, Hayes prospect, sec 20-11s-5w, sd 8664 ft. Stanolind's Calcasieu National Bank 1, South Jennings prospect, sec 15-10s-3w, dr shale 7738 ft. Strake's Miller Estate 1, Woodlawn prospect, sec 7-9s-5w, dr shale 8409 ft.

ST. BERNARD PARISH—John Cartwright's Nunes 1, e of New Orleans, sec 10-13s-12e, dr shale 4995 ft.

ST. JAMES PARISH—Shell's Colonial Sugar 1, Convent prospect, sec 5-12s-5, dr shale 5200 ft.

ST. MARTIN PARISH—Texas Co.'s Mongouloi 2, sec 14-10s-9e, woc 7151 ft; same operator's St. Martin Land Co. 8, sec 9-8s-7e, running an electrical logging device at 8798 ft.

TERREBONNE PARISH—Humble's Continental 1, sec 30-17s-14e, dr shale 7276 ft.

VERMILION PARISH—Continental's Hebert 1, Abbeville prospect, sec 20-12s-3e, dr cement plug 10,947 ft.

NORTH LOUISIANA

BIENVILLE PARISH — Bowles et al's Bank of Ringgold 1, ne ne 3-15n-9w, lcn. DeSoto O&G Co.'s Dunn & Olsen 1, n½ nw 15-16n-10w, mim. J. W. Leonard et al's Courtney 1, se ne 5-17n-7w, 13⅜ in csg 330 ft, woc, 9-in csg 2450 ft. Rondeau et al's Locke 1, ne nw ne 9-15n-10w, elev 180 ft, rur. Walters et al's Davis 1, se sw 5-16n-9w, dk.

BOSSIER PARISH — Humphreys et al's Bulkley 2, 35-21n-13w, dr 305 ft. Bowman & Tidwell's Nattin 1, 15-22n-14w, sd 2650 ft. Producers O&G Co.'s Skannal 1, w½ sw 22-17n-12w, elev 164 ft, dr 4734 ft, lime and shale. United Gas Pub. Serv. Co.'s H. L. Skannal D-1, ne ne 22-17n-12w, pb to 5182 ft, arr test after swabbing sw at 5315 ft. Triangle Drlg. Co.'s Skannal E-1, c s½ 23-17n-12w, blew out making est 63 mil ft gas, killed, arr deepen, td 4388 ft.

CADDO PARISH—Dalton Dev. Co.'s Noel 1, 4-21n-14w, sd 1065 ft. Fallon Oil Co.'s Cupples 1, 24-16n-13w, spd cmtd 16-in csg 190 ft, dr 200 ft. Gulf Oil Corp.'s Hatcher 1, 11-17n-15w, spd. J. B. Hutchinson, Tr.'s Colquitt 1, ne nw 28-16n-13w, spd woc 40 ft. Prairie River Synd.'s Hutchinson 1, sw nw 15-15n-12w, elev 152 ft, top anhydrite 3985 ft, dr 4226 ft anhydrite. Pyramid O&G Co.'s Wheeler A-1, w½ ne 16-18n-16w, elev 250 ft, sd 5910 ft.

CATAHOULA PARISH—McDermott et al's La. Cent. Lbr. Co. 1, 5-10n-5e, sd 2760 ft.

CALDWELL PARISH—Zeigen et al's La. Cent. Lbr. Co. 7, dry abn 1763 ft.

CLAIBORNE PARISH — Martin & Langford's White 1, se se 26-21n-8w, rur and sd. E. T. Oakes' Patton Est. 2, ne ne 1-20n-5w, elev 357 ft, sr, td 4403 ft (top of Travis Peak). Sugar Creek Synd.'s Darrett 2, se sw 31-20n-5w, elev 234 ft, dr 8025 ft.

DE SOTO PARISH—J. E. Carlson et al's Garland 1, se nw 7-14n-14w, top Nacatosh 1065 ft, sd 1240 ft. Payne et al's Harris 1, 11-13n-14w, fsg 2200 ft.

FRANKLIN PARISH—S. C. Jensen's Bailey 1, se nw 12-11n-6e, sd 1435 ft.

JACKSON PARISH — Zeigen et al's La. Cent. Lbr. Co. 5, ne nw 13-14n-2w, owdd, 1770 ft.

MOREHOUSE PARISH—Henry E. Rondeau et al's Clarke 1, ne se 10-20n-7e, woc 13 in csg 650 ft, elev 90 ft.

NATCHITOCHES PARISH—C. D. Morrison et al's Moffett 1, se se 19-10n-10w, woc

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surf csg 220 ft. Union Pet. Co.'s DeBlieux 2, 83-10n-7w, spd woc surf csg.

RED RIVER PARISH—Conley et al's Long-Bell 1, ne ne 19-13n-9w, sd 3200 ft. T. G. Shaw's Teekel 1, se sw 34-13n-10w, sd 2830 ft.

RICHLAND PARISH—Gulf Oil Corp.'s R. R. Rhymes et al 15, nw se se 32-17n-6e, dr 2510 ft. Morrisey et al's W. T. Jones 1, 15-18n-7e, dr 2280 ft.

SABINE PARISH—Massa & Aiken's (formerly Claude H. Smith et al) Whitney Corp. 1, ne ne 19-10n-13w, claim so in Fredericksburg, sd for csg 3300 ft. A. H. Tarver's Baker 3, nw ne 36-8n-12w, elev 347 ft, cemtd 8¼ in csg 3560 ft, dr 4075 ft. Whitehurst et al's Whitney Corp. 1, 8-9n-13w, dr 3956 ft.

TENSAS PARISH—H. M. Jones' Chicago Mill & Lbr. Co. 1, ne ne 29-12n-10e, tested 1 mil ft gas show sw 779 ft, sd 880 ft. Clara Nook Plant 1, se se 32-12n-10e, sd 650 ft.

WEBSTER PARISH—Feazel et al's Hooper 1, nw sw 8-17n-9w, elev 173 ft, sd 3016 ft. Ohio Oil Co.'s R. L. Holloway 6, ne sw 23-21n-10w, elev 210 ft, cemtd 7-in csg 8483 ft, woc, td 8495 ft. Red Hawk Oil Co.'s Baker 1, se nw 9-22n-9w, 12-in csg 200 ft. Skidmore et al's Barnette 1, nw sw 29-17n-9w, sd 1050 ft. J. P. Evans' T. H. Johnson 1, elev 239 ft, sw nw sw 36-18n-9w, woc 10-in csg 1925 ft. W. D. Ambrose et al's Crichton 1, sw nw 36-18n-9w, spd woc 16-in csg 250 ft.

WEST CARROLL PARISH—Lohman et al's C. M. Neely 1, se se sw 19-20n-11e, 12-in csg 185 ft, dr 685 ft shale.

MISSISSIPPI

CLAIBORNE COUNTY—Claiborne O. & G. Drlg. Co.'s Crawford 1, 6-13n-4e, elev 115 ft, sd 985 ft. Claiborne County Dev. Co.'s Ruth Hayden 1, 56-11n-2e, lcn.

GRENADA COUNTY—H. T. Salter et al's Carpenter 1, 5-21n-7e, dk & mir.

JONES COUNTY—Snow-Black Pet. Co.'s Fox 2, 31-7n-12w, arr deepen 3905 ft.

SIMPSON COUNTY—Goodwill O. & G. Co.'s Berry 1, 33-2n-4e, lcn.

SMITH COUNTY—Howie & Lewis' Broadfoot 1, 15-4n-7e, sd 1890 ft, green limey shale.

WILKINSON COUNTY—T. S. Stoneman et al's L. T. Ventress 1, 38-2n-3w, lcn.

YALABOUSHA COUNTY—G. M. Langston et al's (formerly carried in error W. S. Biles et al), W. C. Bryant 1, sw 21-24n-6e, elev 276 ft. dk & mir.

MICHIGAN

BAY COUNTY—H. L. McEvoy's Glander 1, 14n-3e-18, Marshall 1131, dr 1450 ft.

ARENAC COUNTY—T. F. Caldwell, Inc.'s Mutch 1, 19n-4e-17, dr 185 ft.

ALPENA COUNTY—C. W. Teater's Nevins 1, 32n-6e-18, dr 2796 ft.

CLINTON COUNTY—J. T. Norris, Tr.'s, Harris 1, 7n-2w-14, lcn. Petroleum Exploration Co.'s Cable 1, 5n-2w-12, fsg 2950 ft. H. E. Bell's Arthur 1, 6n-1w-29, sp.

GLADWIN COUNTY—Goll, Graves, Mechling's Oard 1, 18n-1w-25, Dundee 3496 ft, so&g 3559-70 ft, salt water 3680 ft, pb to 3670 ft, acidizing; State 1, 19n-2e-30, sd 1300 ft. Gordon and Mark's Barnes 1, nw nw nw, 20n-1w-22, rig.

GRATIOT COUNTY—Red Man Oil Co.'s Duckworth 1, 11n-3w-9, lcn. McPherson Company's State Bank 1, 9n-1w-11, rig. E. L. Stoddard's Soule 1, 11n-2w-9, dr 800 ft. Oil Finders, Inc.'s Stahl 1, 11n-2w-28, Traverse lime 2702 ft, dr 2900 ft. Associated Petroleum Co.'s Yutzey 1, 11n-4w-26, Dundee 3184 ft, water 3225 ft, sd 3235 ft.

IONIA COUNTY—Terry Dale, Inc.'s Tew 1, 6n-7w-12, dr 3800 ft. J. H. Barton's Mosser 1, 6n-5w-19, rig.

KENT COUNTY—J. H. Barton's Smith 1, 10n-10w-29, sd 3201 ft. Michigan Oil Exploration Co.'s Croff 1, 7n-9w-35, dr 4000 ft.

LAKE COUNTY—C. W. Teater's McCabe Estate 1, 20n-12w-26, Dundee 3289 ft, fsg 3438 ft.

MASON COUNTY — Sylvania Oil Co.'s Campbell 1, 17n-15w-10, dr 2450 ft. Dragoon Development Co.'s Young 1, 17n-15w-15, dr 2830 ft. Northern Development Co.'s Burke 1, 17n-15w-26, sd 2630 ft. Great Northern Oil Co.'s Cartier 1, 19n-15w-6, dr 1100 ft.

MECOSTA COUNTY—W. J. Bernier's Fitzgerald 1, 13n-9w-9, Dundee 3474 ft, sd 3500 ft. Hall Be Oyle Co.'s Sears 1, 13n-8w-9, dr 1000 ft. Daily Crude Oil Co.'s Hoffman 1, 16n-7w-9, dr 700 ft. F. V. McCollister's Joass 1, 15n-10w-8, fsg 2750 ft.

MONTCALM COUNTY—K. B. Montigel's Loree 1, 9n-5w-18, Traverse 2679 ft, 2000 ft oil 2723 ft, csd 5 in, testing. R. E. Gallagher's Bentley 1, 11n-7w-33, sd 3234 ft. Terry Dale's Higgins 1, 9n-8w-13, sd 460 ft.

TUSCOLA COUNTY — Co-Op Oil Co.'s Forsyth 1, 10n-7e-36, Berea 1443 ft, so 1474-79 ft, dr 1490 ft. Dr. Virgil R. D. Kirkham's Boyce Farm 1, 14n-7e-24, testing 2850 ft (Dundee 2406 ft), pumping 25 bbls 8 hrs after acid.

MISCELLANEOUS—Chippewa County: F. D. Barton's Kretan 1, 41n-7e-17, sd 879 ft. Genesee County: C. E. Bliss' Crawford 1, 9n-8e-27, rig. Isabella County: H. E. Bell's Nilson 1, 13n-3w, se se ne, sec 16, mim. Livingston County: Louis Meyer's Cassidy 1, 4n-3e-5, mim. Manistee County: Jacob Bolema's Red Wing Dev. 1, 21n-16w-15, dr 1915 ft. Midland County: B. A. Bartlett's Seibert 1, 15n-2e-33, dr 780 ft. Missaukee County: M. J. Ingold's Donley 1, 22n-8w-31, dr 760 ft. Ogemaw County: Meredith Oil Co.'s Diebold's 1, se sw sw, 21n-1e-17, rig.

MONTANA

DANIELS COUNTY—Whitetail Oil & Gas Co. 1, nw ne nw 10-36n-50e, dr 2547 ft.

FERGUS COUNTY—H. C. Rowland, Govenment 3, center el, ne sw 18-17n-24e, dr 910 ft. Judith Operating Co., Government 2, w nw ne 35-22n-17e, dr 2085 ft. Canmont Exploration Co., Ltd., se ne se 6-21n-18e, spd.

JUDITH BASIN COUNTY — Fletcher P. Hunt, Hobson 3, nw se ne 30-14n-15e, dr 961 ft.

PETROLEUM COUNTY—H. Clark Rowland et al, Kalispell 1, ne ne se 35-14n-25e, mim.

PONDERA COUNTY — Gordon Campbell, Hughes 1, nw ne nw 12-30n-4w, cemented 7 in csg to 2200 ft. R. C. Tarrant, Wallenstein 1, cnw nw sw 9-28n-5w, dr 2342 ft.

NEW MEXICO

LEA COUNTY—Argo Royalty Co.'s Lanehart 1, sw se ne 21-25s-37e, mim. Barney Cockburn & Rowan-Nichols Oil Co.'s H. C. Mattern 1, c sw se 7-22s-37e, elev 3426 ft, used 2000 gals acid at 3727 ft, flows 5 bbls fluid per hr, mostly sulphur water, with 1,000,000 ft gas daily. C. & G. Oil Co.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft, top anhydrate 1348 ft, top Hobbs lime pay 4050-4075 ft, flowing 50 bbls oil and 300 bbls water, to re-set packer. Continental-California Co.'s E. M. Elliott 1-A-21, c se se 21-22s-37e, rig. Culberson, Erwin & Stovall's J. S. Eaves 1, c sw nw 18-21s-33e, elev 3893 ft, fsh 2190 ft. Emperor Oil Co.'s State 1, c sw sw 5-21s-35e, sp and sd. Gulf Oil Corp.'s L. M. Buffington 1, c nw sw 13-25s-37e, elev 3091 ft, sd in big gas, td 3063 ft; S. J. Carr 1, c nw sw 3-24s-37e, elev 3267 ft, show oil 3555-60 ft and 3575-80 ft, dr 3635 ft; F. C. King 1, c sw nw 5-23s-37e, elev 3371 ft, cem cas, td 3645 ft; J. A. Stuart 1, c sw ne 10-25s-37e, elev 3120 ft, complete in sandy-lime 3338-3431 ft, flowed 214 bbls daily natural with 3,500,000 ft gas. Humble O&R Co.'s B. E. Boyd 1, c nw se 35-22s-37e, elev 3292 ft, dr 1550 ft; W. B. Farrell 1, c sw se 22-22s-37e, elev 3341 ft, tested sul w at 3691-3705 ft, pb to 3687 ft, co with 1500 ft fluid in hole. Jal Nat'l Gas Co.'s C. T. Bates-Humble 1, c nw sw 20-25s-37e, elev 3049 ft, dr 1325 ft. Landreth Prod. Corp.'s E. H. Grizzell 1, c se sw 5-22s-37e, elev 3437 ft, flows by heads, dr 3755 ft. Harry W. Leonard et al's B. T. Lanehart 2, c se nw 21-25s-37e, elev 3067 ft, blew in while fsh tools at 2913 ft, gauged 285 bbls oil per hr on short gauge. Magnolia's E. A. Carson 1, c nw sw 28-21s-37e, elev 3463 ft, top salt 1348 ft, top lime 2700 ft, td 3779 ft, flowed 85 bbls oil and 1,750,000 ft gas, sd for acid; Scharbauer-Edson 1, c nw se 29-16s-35e, dr 560 ft. Ohio Oil Co.'s Anna Walden 1, c ne ne 21-22s-37e, machine. Oil Well Drl. Co. et al's P. C. Klingsmith 1, c se se 20-19s-37e, cem surface cas. Oil Well Drl. Co.-The Texas Co., L. L. Clardy 1, c se se 13-16s-36e, sp. N. G. Penrose & Rowan-Nichols Oil Co.'s Will Cary-Humble 3, c se nw 22-22s-37e, elev 3364 ft, sd 1150 ft; Cary 4, c sw nw 22-22s-37e, elev 3365 ft, dr 3000 ft. Plains Production Co.'s J. A. E. Knight-Humble 1, c ne se 21-24s-37e, dr 600 ft; Knight-Humble 2, c ne sw 14-24s-37e, mim; John Williams-Humble 1, c sw ne 34-24s-37e, dr 750 ft. Repollo Oil Co.'s Frances Stuart 1, se nw se 10-25s-37e, elev 3114 ft, making oil and gas, dr 3310 ft; J. M. Brownlee 1, ne ne sw 25-21s-36e, dr 660 ft. Republic Prod. Co., R. S. Crosby 2, nw nw sw 28-25s-37e, lcn. Samedan Oil Corp.'s Marshall 1, c sw nw 12-21s-36e, elev 3540 ft, td 3861 ft, used acid then shot 60 qts nitro at 3791-3850 ft, re-shot 120 quts nitro at 3797-3851 ft, testing; S. B. Hughes 1, c ne sw 4-23s-37e, machine. Skelly Oil Co.'s J. V. Baker 2, c nw nw 27-22s-37e, elev 3341 ft, flows 110 bbls natural at 3596 ft, to shoot with 220 qts at 3504-86 ft; Ellen Sims 1, c nw se 3-22s-37e, elev 3300 ft, dr 3500 ft; F. S. Stuart 1, c ne nw 15-25s-37e, elev 3107 ft, rust, td 3150 ft. Sun Oil Co.'s B. T. Lanehart 1, c se se 20-25s-37e, elev 3042 ft, top anhydrite 971 ft, top salt 1145 ft, td 2790 ft, lost string tub and dp, pb to 2422 ft, dr by junk at 2577 ft. The Texas Co.'s E. D. Fanning 1, c se ne 4-24s-37e, elev 3293 ft, dr 3490 ft.

OKLAHOMA

ATOKA COUNTY—Prairie Investment Co.'s Cobb 1, sw ne nw 19-3s-11e, ur 8-inch 530 ft.

BECKHAM COUNTY—Jo-Gail Drlg. Co.'s Gilliland 1, cne ne 3-8s-26w, dr 1088 ft.

CARTER COUNTY—Carter et al's Leon Voorhees 1, cse sw 34-5s-2w, dr 7278 ft. John W. Hammond et al's Lile 1, sw se se 8-5s-1e, ur 10-inch 553 ft.

COAL COUNTY—Shell's Hill 3, se se nw 30-3n-10e, td 4270 ft, 75,000 ft gas. Sinclair Prairie's Culver 1, ne ne sw 16-1n-8e, dr 2675 ft. Mitchell's Quiett 1, ne nw sw 35-1n-8e, sd 1900 ft, moving out tools. Carter and Magnolia's James 1, sw nw sw 35-1s-8e, dr 2512 ft. Continental's King 1, ne sw ne 26-1n-8e, dr 1816 ft.

COMANCHE COUNTY — William Davis' Aetna Life 1, se ne ne 22-2n-15w, dr 98 ft.

GARFIELD COUNTY—Stanolind-Amerada's Brunken 1, sw sw ne 32-23n-4w, dr 6295 ft.

GARVIN COUNTY—McElreath & Suggett's Lassater 1, se se sw 2-2n-1w, dr 4713 ft. Luttrell et al's Howell 1, nw se nw 34-1n-1e, dr 155 ft.

GRADY COUNTY—Art Holt et al's Ramsey 1, ne se ne 31-5n-8w, rig. Graham et al's Castleberry 1, sw se nw 8-5n-7w, sd 580 ft.

HUGHES COUNTY—Phillips' Eberle 1, ne ne sw 12-5n-9e, 5679 ft, woc. Sivils et al's Montgomery 1, nw sw nw 7-9n-9e, ru 6-inch, 3498 ft. Blackwell O&G Co.'s Long 1, se ne nw 29-9n-9e, fsg 10-inch, 2615 ft. Sinclair Prairie et al's Wilkey 1, sw sw sw 23-9n-8e, sd 3549 ft. Blackwell O&G et al's Homahte 1, sw ne ne 1-9n-10e, dr 2177 ft.

JACKSON COUNTY—Burnham's Oliver 1, nw nw se 26-1n-20w, td 2085 ft, dr by tools. Ben Russell's Daniel 1, nw ne se 13-3n-20w, sd 1423 ft. Jackman's Fee 1, sw sw sw 27-1s-24w, dr by 2130 ft. Delaney's Mock 1, cne sw 32-1n-20w, dr 2075 ft.

JEFFERSON COUNTY — Red River Oil Co.'s Trout 1, se ne ne 6-8s-7w, td 2212 ft, testing show.

JOHNSTON COUNTY — Shell's Illinois Bankers Life 1, nw se ne 10-2s-7e, dr 1140 ft. Patton et al's McCrummens 1, sw sw ne 16-1s-6e, dr 116 ft.

KAY COUNTY—Allen and Texas Co.'s Fulton 1, se se se 18-27n-4e, sd 1675 ft. Denver P&R Co.'s School 1, se nw ne 13-26n-1w, rur.

KIOWA COUNTY—Beeler & Klein's Parrish 1, se se nw 3-6n-15w, sd 290 ft. Westbrook & Likeing's Aetna Life 1, ne se se 10-5n-16w, rig. Travis & Scott's Doyle 1, ne se sw 21-5n-17w, dr 366 ft.

LE FLORE COUNTY — McGraw et al's Tidwell 1, cnw se 17-3n-22e, dr 1890 ft.

LINCOLN COUNTY — Amerada et al's Zimmerman 1, sw sw ne 10-12n-5e, swab and flow 320 bbls oil, 212 bbls water, testing. Mid-Continent's Hillman 1, sw se ne 29-13n-6e, rust 4447 ft. Skelly's Sporn 1, nw ne sw 21-17n-3e, dr 2998 ft. Kemp and Continental's Lobaus 1, nw sw nw 21-17n-5e, rig.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, sd 8565 ft. Riddle et al's Johnson 1, csw se 20-8s-2w, dr 150 ft.

MARSHALL COUNTY — Helmerich & Payne's Taliaferro 1, nw se sw 26-5s-5e, dr 2520 ft in new hole. Sherril & Round's Taylor 1, sw ne ne 30-7s-7e, ur 6⅝ inch, 740 ft.

McINTOSH COUNTY—Dieckman's McIntosh 1, se se se 4-12n-17e, dr 965 ft. Wigton et al's Koch 2, nw se ne 15-11n-15e, dr 3275 ft.

NOBLE COUNTY — Stanolind-Amerada's Gillham 1, ne se se 14-22n-1e, dr 4100 ft.

OKFUSKEE COUNTY — Oklahoma Oil Corp.'s King 1, se se ne 23-10n-8e, mir.

OKLAHOMA COUNTY — O'Shaughnesey, Inc.'s Berlowitz 1, se sw ne 9-12n-3w, dr 6336 ft.

OSAGE COUNTY—Gray & Tolson's 1, sw sw ne 33-25n-7e, sd 3052 ft, wih. Stoner & Miller's 1, nw ne sw 18-22n-8e, dr 2270 ft. Norbla Oil Co.'s 1, ne ne ne 13-23n-6e, rig.

PAYNE COUNTY — Amerada-Stanolind's Pratt 1, se se se 29-19n-5e, td 3802 ft, flow and swab 195 bbls oil, 95 bbls water, sd.

PITTSBURG COUNTY — Oklahoma Dist. Oil Co.'s Beeler 1, ne ne sw 7-7n-14e, dr 745 ft.

SEMINOLE COUNTY—Tom Phillips and Kimraw Drlg. Co.'s Chemperney 1, se se nw 7-6n-7e, sd 4085 ft. Twin State's Hamm 1, sw se sw 24-10n-7e, sd 4368 ft. Crosbie's Casey 1, cn¼ n¼ ne 30-6n-8e, dr 3874 ft. Arkansas Royalty Co.'s Kiker 1, se se ne 9-10n-7e, dr 3960 ft. Deaner & Tilley et al's Wilson 1, se sw sw 29-7n-6e, dr 3580 ft. Rudco O&G Co.'s Butner 1, 1-A, ne ne sw 15-9n-8e, fsg 1385 ft. Kennedy's Bowlegs 1, nw nw se 3-8n-7e, lcn.

STEPHENS COUNTY — Endicott et al's McFatridge 1, nw nw sw 11-3s-19w, fsg 1487 ft. Ed Parson's Olson 1, csw sw 21-2n-8w, rig.

TEXAS COUNTY — Allison & Barnhill's Bingley 1, sw sw ne 30-2n-18ecm, rig.

TILLMAN COUNTY—Gulf's Wearmouth 1, se nw se 31-1s-18w, fsg 5125 ft. Johnson, Young & Mitchell's Donahoe 1, se nw nw 7-4s-

17w, dr 2870 ft. Gulf et al's McWilliams 1, nw sw sw 15-3s-17w, dr 4678 ft. Bernheim's Tate 1, ne ne nw 16-1s-19w, td 2602 ft, woc. Smith's Hammill 1-A, ne nw nw 6-5s-15w, sd 2140 ft. Eugene Skinner's Rilling 1, se se nw 22-1s-15w, dr 220 ft.

EAST TEXAS

ANDERSON COUNTY—Gulf Oil Corp.'s M. J. Ross 1 (54.7-ac), Robt. Erwin sur, Camp Hill area, elev 487 ft, top Georgetown lime 5452 ft, dr shaley-lime 6820 ft. Tide Water-Seaboard Oil Corp.'s J. N. Edens 15 (988.6-ac), Samuel Snider sur, Cayuga area, elev 313 ft, Pecan chalk 2245-2410 ft, Austin chalk 3161-3498 ft, top Woodbine series 3880 ft, top Georgetown lime 4619 ft, dr shaley-lime 5930 ft.

BOWIE COUNTY—Fay T. Chew and Brassett's Byron Barkinson 1 (90-ac), J. W. Parkman sur, 2½ mi n of Leary, sp and sd. Ferguson and Hill's A. Y. Breckenridge 1, Nancy Dycas sur, 4 mi w Texarkana, sp and sd. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, will dd fr 3260 ft.

COLLIN COUNTY—Port Bolivar Co.'s O. G. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat. 1193, elev 722 ft, sd 4096 ft; A. Shirley 1 (50-ac), Gwynn Morrison sur, 1 mi e of Anna, dk.

DELTA COUNTY—Delta Oil Co., Inc.'s J. H. McKinney 1 (231-ac), L. Hampton sur, lcn.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Herold League, 5 mi sw Kosse, elev 521 ft, top Pecan chalk 2114 ft, Austin chalk 2765-2946 ft, dr Eagle Ford shale and sand 3442 ft.

FRANKLIN COUNTY—Atex Oil Co.'s R. L. Jaggers 1, ½ mi from Winfield, sp and sd. Earl Bateman Drlg. Co.-Al Ravenger's E. L. Phillips 1 (38½-ac), Wm. Bridwell sur, elev 358 ft, top Georgetown lime 3510 ft, top Paluxy 4287 ft, tested sw at 4357-4361 ft, pb to 4343 ft, sd to pump with 4150 ft oil in hole. Joe DeGrazier et al's F. M. Batts 1 (30-ac), F. M. Batts sur, elev 356 ft, top Georgetown lime 3504 ft, Pecan chalk 1355-1420 ft, top Paluxy series 4274 ft, dry and abnd 4343 ft. Virginia Hudson et al's B. M. Patterson 1 (31-ac), E. Rice sur, 3½ mi sw Hagansport, dk. Humble's A. P. King-Hughes 3 (1053.36-ac), O. James sur, elev 369 ft, dr 500 ft; King-Hughes 4, elev 368 ft, rig; King-Hughes 5, elev 365 ft, rig; P. J. Dawson 1 (80.45-ac), B. H. Epperson sur, elev 372 ft, Pecan chalk 1280-1371 ft, dr in Paluxy Red Beds 4330 ft. Lucey Pet. Co. et al's W. N. Crawford 4 (25.23-ac), O. James sur, elev 371 ft, Pecan chalk 1594-1780 ft, dr 3000 ft. Magnolia-Humble's C. L. Owings 1 (160-ac), McKinney-Williams sur, elev 367 ft, Pecan chalk 1630-1809 ft, top Georgetown lime 3453 ft, dr 3670 ft. McAlester Fuel Co.'s A. M. Crawford 2 (25.23-ac), O. James sur, elev 367 ft, Pecan chalk 1600-1760 ft, top Georgetown 3390 ft, Paluxy pay 4159-4303 ft, completed, flowed 40 bbls per hr via tubing; Crawford 4, dr 1500 ft; Crawford 6, elev 366 ft, Pecan chalk 1591-1740 ft, top Georgetown 3345 ft, top Paluxy pay 4150 ft, dr 4300 ft. Stroube & Stroube's B. Norman 1, MEP&P Ry. sur No. 344, lcn. Red Iron Drl. Co.-Dean Bros. & Adkisson's Lavada Church 1 (1-ac), C. Payne sur, elev 372 ft, dr 3300 ft. Stroube & Lawrence S. Flannery, Inc.'s J. L. Hedrick 1 (66.08-ac), MEP&P Ry. sur, A-344, elev 373 ft, Pecan chalk 1255-1317 ft, top Georgetown lime 3455 ft, top Paluxy series 4235 ft, water sand 4341-4351 ft, dry and abd 4365 ft.

GRAYSON COUNTY—Olson Drl. Co.-James H. Gardner et al's SW Life 1 (160-ac), J. C. Jamison sur, A-865, 3 mi n Pottsboro, elev 767 ft, top Sylvan shale 4870 ft, Viola lime 4901-5096 ft, td 5890 ft, pb to 5320 ft, will drill by junk. Port Bolivar Co.'s Creed Taylor 1 (160-ac), J. Fitzhugh sur, 3 mi se Gunter, sd 4048 ft.

HARRISON COUNTY—Hanover, Bergendoll et al's Buchanan 1, Wm. McIlvain sur, sdtr 4070 ft.

HENDERSON COUNTY—Atex Oil Co.-Taubert & McKee's R. W. Fair et al 1 (100-ac), J. M. Arnett sur, 5 mi sw Chandler, mim.

HOPKINS COUNTY—D. S. Hager, W. P. Luse & Leon Russ' J. E. Worsham 1 (150-ac), A. O. Wetmore sur, 2½ mi s Sulphur Bluff, elev 440 ft, Pecan chalk 1187-1208 ft, top Woodbine 3040 ft, top Georgetown lime 3600 ft, Paluxy series 4467-4500 ft, flows by heads rate 30 bbls oil daily, sd to pump; Worsham 2, sp. R. T. Sullins et al's H. W. Wilson 1 (8½-ac), A. O. Wetmore sur, lcn.

HOUSTON COUNTY—Branch et al's P. S. Griffiths 1, Frank Johnson sur, 3 mi sw Crockett, dk. Ellison, McBride, Haberle & Thornton's J. E. Bean 1 (40-ac), Eli Steadman sur, 1½ mi nw Grapeland, elev 482 ft, Pecan chalk 4660-4894 ft, Austin chalk 5610-5961 ft, top Woodbine series 6027 ft, td 6037 ft, blowing heavy flow gas with 5 bbls 65° gravity distillate per hr via ¼-in tubing choke and 1/16-in cas choke, tp 2000 lbs and cp 2100 lbs. Walter L. Goldston et al's B. W. Burns-Humble 1 (50-ac), Juan de la Reviere sur, elev 255 ft, top hard Pecan chalk 4714 ft, dr 4940 ft.

HUNT COUNTY—Penn Oil Corp.-Elmer S. & Fox Wood's A. B. Manning 1 (57½-ac), Sally Owens sur, 5 mi n Lone Oak, mim for 6500-ft test. Texola Land Corp.'s Gen'l American Life Ins. Co. 1 (203.8-ac), blk 104, J. Yeary sur, lcn.

KAUFMAN COUNTY—Earl G. Colton, R. P. Lester et al's Barrow Bros. 1 (40-ac), J. D. Taylor sur, 8 mi ne Elmo, elev 528 ft, Austin chalk 2235-2681 ft, top Georgeown lime 4194 ft, little oil saturation in sandy-lime break at 4509-17 ft, dr hard lime 4590 ft.

LAMAR COUNTY—J. S. Abecrombie Co.-Harrison Oil Co.'s C. M. Terrell 1 (220-ac), Abner Hill sur, 4½ mi se Paris, rig. J. A. Forester et al's J. S. Woodward 1 (183¼-ac), J. W. Woodward sur, 1½ mi e by s of Minter, elev 402 ft, top Georgetown lime 2256 ft, Paluxy sand 3060-3144 ft, top anhydrite 3735 ft, base hard anhydrite 4075 ft, broken to 4105 ft, sd 4516 ft, will deepen to Basal Trinity.

LIMESTONE COUNTY—C. F. Lytle et al's J. L. Thompson 1-T (141-ac), w side Mexia field, elev 459 ft, cem 7-in cas 6002 ft, td 6065 ft, tested salt water flow with gas, pb to 6059 ft, sdo.

PANOLA COUNTY—Gulf Oil Corp.'s Pierce & Chesbro 1, J. H. Shahan sur, dk & mir. Logansport P. L. Co.'s Rushing 1, Mannings Smith sur, dr 2650 ft.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. 1-A (392.57-ac), D. D. Bruton sur, 12 mi ne Clarksville, elev 407 ft, Georgetown lime 665-1020 ft, top Paluxy 1057 ft, anhydrite 1740-1800 ft, top sand with good oil saturation 2104 ft, tested sw at 2110 and 2118 ft, fsh 2292 ft, will abn. R. H. Manning and Texfornia Co.'s Hocker-Hughes 1 (80-ac), MEP&P Ry. sur No. 642, 6 mi sw Lydia, elev 307 ft, Nacatoch sand 424-460 ft, sd 850 ft.

ROBERTSON COUNTY—J. Edward Mills et al's Tony Congelosi 1 (75-ac), Geo. A. Nixon sur, 3½ mi sw Hearne, dk.

RUSK COUNTY—Pure Oil Co.'s W. H. Faulkner 1 (60-ac), Wm. Elliott sur, 5 mi e Mount Enterprise, elev 563 ft, Pecan chalk 2650-2890 ft, Austin chalk 3286-3450 ft, top Georgetown lime 3446 ft, stringer anhydrite 5320-25 ft, top massive anhydrite 5945 ft, tested sw at 6177-6298 ft, top Travis Peak red beds 7323 ft, dr hard basal Trinity sand 7605 ft.

SHELBY COUNTY—J. R. Hinton et al's C. H. Horton 1, J. Dowling sur, arr deepen 1860 ft. Farley & Sommers' Green 1, Jas. English sur, no report. Rubeling & Potter's O. H. Polley 1, Wm. Whisner sur, sd 3400 ft Eagle Ford shale (corrected depth). Mulroy & Curton's C. Hayden 1, D. F. T. Yerdt sur, spd woc surf csg. H. S. Stebbinger et al's Pickering Lbr. Co. 1, C. F. Henry sur, top massive anhydrite 4630 ft sd 4865 ft.

TITUS COUNTY—E. E. Combs et al's Dr. R. A. Tate 1, c lot 2, blk 30, Talco, elev 373 ft, Pecan chalk 1560-1830 ft, dr 2500 ft. B. G. Byars et al's L. Blackburn 1 (16.66-ac), J. W. McCullough sur, dk. Eugene Constantin et al's (Delta Drlg. Co.) Cato 1, c blk 44, Talco, top Georgetown lime 3372 ft, Pecan chalk 1610-1750 ft, top Paluxy series 4176 ft, testing near 4300 ft. T. I. Carter Drl. Co.-Dean Bros. & Adkisson's Fee 1, lot 3, blk 30, rig. L. L. Deaton et al's W. H. Gray 1, c lot 7, blk 17, Talco, Pecan chalk 1617-1938 ft, dr 3300 ft. Erle P. Halliburton, Inc.'s H. M. Hood 1, c lot 2, blk 19, Talco, dr 1000 ft. Jack Hearrell et al's L. J. Truitt 1, c lot 1, blk 40, Talco, dr 2400 ft. Humble's N. B. Davis 1 (102.1-ac), I. P. Stern sur, dk; Mrs. L. Stevenson 1 (88.1-ac), I. P. Stern sur, elev 341 ft, Pecan chalk 1600-1760 ft, top Paluxy series 4171 ft, cem 7-in cas 4151 ft, dr 4250 ft. W. B. Hinton et al's C. M. Carr 2-A (16.11-ac), discovery lease, elev 361 ft, rig. Jones-Shelburne, Inc. et al's L. Stevenson 7 (71.9-ac), O. James sur, dk; Tom Simms 1 (2½-ac), J. Salmon sur, rig; Hazelwood 1 (10-ac), I. P. Stern sur, elev 342 ft, top Red Beds 3238 ft, top Georgetown lime 3511 ft, Paluxy series 4285-4351 ft, tested water, pb to 4334 ft, dry and abd. W. P. Luse and Fosdick's Nugent 2 (2.3-ac), blk 18, Talco, Pecan chalk 1520-1830 ft, top Paluxy 4140 ft, dr 4200 ft; W. T. Sullivan 2 (4-ac), dr 3000 ft. Magnolia-Humble's L. Blackburn 1 (80.51-ac), Ben Jones sur, elev 359 ft, Pecan chalk 1607-1915 ft, Paluxy series 4178-4340 ft, flowed 82 bbls per hr via 2¼-in tubing. R. E. Massengill, Dean Bros. & Adkisson's I. Tidwell 1 (¾-ac), c lot 15, blk 16, Talco, top Pecan chalk 1600 ft, dr 2500 ft. Nemo Oil Co.'s Talco School 2 (5-ac), Stern sur, elev 376 ft, top Pecan chalk 1666 ft, dr 2200 ft. Nivla Oil Corp.-Sutton-Hawkins' W. H. Gray 2 (2-ac), blk 17, Talco, elev 360 ft, top Pecan chalk 1658-1825 ft, dr 2500 ft; J. N. Kelly 1, nec 15.76-ac lse, J. Salmon sur A-506, elev 348 ft, Pecan chalk 1533-1730 ft, top Red Beds 3181 ft, top Georgetown lime 3640 ft, top Paluxy series 4228 ft, td 4360 ft, rust to co and pump; Kelly 2, rig. J. W. Osteen et al's W. DuBose 1 (1-ac), M. V. Delgado sur, elev 376 ft, top Georgetown 3646 ft, top Paluxy 4158 ft, flowing oil, testing. H. B. Ownby Drl. Co.'s J. F. Barton 1 (4.8-ac), Delgado sur, elev 368 ft, Pecan chalk 1635-1780 ft, dr 4100 ft. Paluxy Oil Corp.'s U. Shaw 1 (2.85-ac), Talco, Pecan chalk 1630-1738 ft, top Georgetown lime 3551 ft (est.), dr 4150 ft. Porter Bros. et al's W. T. Sullivan 1 (4-ac), I. P. Stern sur, elev 348 ft, pay zone 4188-4352 ft, tested dry on drill stem test, sd. Allen M. Peairs and McNeny (was B. C. Morrison's) T. Savage 1 (4-ac), J. Salmon sur, dr 3500 ft. J. I. Roberts Drl. Co.'s T. A. Simms 1, c lot 3, blk 19, Talco, lev 368 ft, top Pecan chalk 1618 ft, dr 2000 ft. Stroube & Stroube's S. E. Stratton 1 (50-ac), MEP&P Ry. sur, 6 mi e Talco, elev 341 ft, Pecan chalk 1711-1880 ft, top Geogetown lime 3505 ft, Paluxy series 4275-4510 ft, with water at 4498-4510 ft, dry and abd.

SOUTH TEXAS

ARANSAS COUNTY—Buchingham Oil Co.'s McCampbell 1, James Orick sur, 2 mi nw of Aransas Pass, td 7501 ft, pb 6534 ft, blew out while making dst, moved in rig, sdtr, cored sand 6534-46 ft, show oil, sw 6546-60 ft, sdtr, td 6560 ft, set 7-in csg on bottom, perf csg 6549-47 ft with 14 holes; 6551-54, 10 holes, washed in late 7-17-36 showing 1800 lbs pres. Began making fluid, 2-5 percent oil and by 5:00 pres. dropped to 225 lbs., ⅛ ch, then well made solid stream of oil for 5 min, went dead, now flowing wash water, and a trace of oil, tp 850 lbs., cp 1100 lbs, 7/64 ch.

ATASCOSA COUNTY—R. C. Lee, Trustee's U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell sur No. 1222, 3 mi n Poteet, set 7 in csg 3460 ft, top chalk 3503 ft, dr 3785 ft. Helvetia Oil Co.'s Susie Pratt 1, 176-ac tr, J. de la Garza sur No. 46, 1 mi nw Anchorage, td 2300 ft, sand and sandy shale 2249-2300 ft, set 7 in csg 2245 ft, dr plugs.

BASTROP COUNTY—Marts & Beavens' Parkford & Jenkins 1, center lot 24, Bastrop Town tr, td 3410 ft, ds stuck, fresh water broke in, sdtr 600 ft of stuck ds, will deepen.

BEE COUNTY—Geo. M. Church et al's C. A. Ray 1, Anna Burk sur, 2 mi e Beeville, sd 4500 ft. Marine Oil Corp.'s J. C. Woods 1, 427-ac tr, J. Ryan sur, disc well, Beeville field, sd 5831 ft. Nichols & Quinn's J. R. Scott 1, blk 7, Howeth & Swiger sub, Uranga gr, sp and sd, wor, H. A. Pressey's R. T. Hicks 1, 1120-ac tr, Jose M. Uranga gr, ab 568, 4½ mi s of Normana, td 3568 ft, broken sand, shale and shells 3482-3568 ft, show dry gas, set and cemented cas on btm, will perf 3482-87 ft, wo perforater. R. B. Swiger's C. A. Voss 1-A, 330 ft nl and el of sh 1, Voss Ranch subd, Samuel May sur, ru; C. A. Voss 2-A, 660 ft s No. 1-A, 660 ft e of Devonian discovery, Samuel May sur, lcn.

BEXAR COUNTY—Algra Oil Co. No. 1 Edward G. Peters, commence w cor of tr thence n 14° e 1085 ft, thence 150 ft se at right angles, near intersection Garden and New Sulphur rd, sur 5, sec 4, Miguel Gotari sur, 13 mi se San Antonio, mim, 1000 ft test. American Gas Co.'s Oliver No. 5, 400-ac tr, M. F. Rodriguez sur, Gas Ridge, ur 5-3/16 in cas, td 3114 ft. Carter & Ingersoll's Louis Mann 1, 60-ac tr, John Christopher sur, 3 mi s Von Ormy, td 1202 ft, set 6⅝ in csg to 815 ft, lowering rest of csg to btm. Joe Deupree's Mrs. R. S. Nina (R. S. Coffey) 1-A, Rodriguez sur, 7 mi s San Antonio, sd 1200 ft, to recement csg at 1059 ft; R. S. Coffey 2, F. Rodriguez sur, sd 900 ft, sh. B. Schumacher's Hilda Gillette 1, 49-ac tr, M. C. de Alamiz sur No. 20, 7 mi s San Antonio, td 1540 ft, lost 45 joints of dr pipe. F. M. Shaver's A. W. Bitter 2, Jose Baerrera sur No. 58, 2 mi nw Von Ormy, top chalk 1171 ft, dr 1347 ft in ch. Dr. L. Skaggs' P. A. Chapman Jr, 1, 125-ac tr, A. J. Leslie sur No. 99, 10 mi sw S. A., td 1017 ft, set cas 658, csg at 997 ft, prep test. Fred Thorman's A. L. Salm 1, 330-ac tr Peter N. Hays sur No. 3, coring 1772 ft. R. P. Whitfield's Col. John Sweeny 1, GH&SA RR. sur, 11 mi sw San Antonio, td 804 ft, set csg, sd account of weather, will reset csg. Woodward & Hardie's R. W. Devilbiss 1, John W. Devilbiss sur, 1 mi w Thelma, sd 2280 ft, set csg abt 2800 ft, dk pulled in, re-erecting dk, cas has not been set.

BROOKS COUNTY—The California Co.'s E. Garcia 1, tr No. 3, Las Mestinas de Gonzaline gr, Alta Mesa dist., fsh at 8022 ft, stuck ds.

BURLESON COUNTY—M. R. Exploration Co.'s J. M. Fountain 1, 963-ac tr in W. Raleigh sur, lcn. Red Bank Oil Co.'s Grann 1, 221-ac tr Eliza Santef sur, sp.

CALDWELL COUNTY—Barnet Pet. Corp.'s M. L. Strawn 1, 210-ac tr, Pablo Martinez sur,

¾ mi w of Lytton Springs townsite, dr 175 ft. H. B. Starkey's (J. J. Elam et al) Francis-Brown-Cochran 1, W. F. Young sur, 5 mi e Luling, sand with show of oil and gas 1742-47 ft, set 5 3/16-in csg on packer, completing, well blew bailer out of hole, closed in, installed Christmas tree and other connections. Lincoln Pet. Corp.'s T. H. Brown 1, 70-ac tr, Dillard Cooper sur, dr 2275 ft. Wheelock & Collins' Alexander 1, se ½ of 158-ac tr, Wm. Spillers sur, ¾ mi w of Branyon field, dr 1800 ft.

CALHOUN COUNTY—Benedum & Trees' John Reemer 1, center of 2300-ac tr in John Ogsberry sur (tr being approx. center of 20,000-ac holdings, 10 mi sw Port Lavaca), mim. Blanco Oil Co. and Al Buchanan's P. H. Welder 1, D. L. Palmer sur, 1 mi ne Heyser disc well, dk & sd acct. weather. Continental Oil Co.'s Austin (Vandenburg) 1, sec 12, blk "H," Pedro Garcia sur, 1 mi n of other heaving shale wells, Seadrift prospect, set 11¾-in csg at 6598 ft, td 8722 ft, in shale, change bits, ds stuck at 8521 ft, gas sand 8665-69 ft; sand 8700-20 show gas with slight oil odor. Humble Oil & Refining Co. and Plymouth Oil Co.'s E. H. Welder 2, ¾ mi sw Heyser disc well, Jose Maria Rios sur, dst 5454-73, rec 35 lbs pres, 90 ft mud, comp 100 bbls day ¼-in ch, too high oil-gas ratio, pulled tubg and reworking for second time, deepened to 5477 ft; P. H. Welder B-1, 3000 ft nw disc, 466 ft nel & sel of Agaton Cisneros sur, lcn. Matagorda Oil Corp.'s (Hilton & Miese) J. Brundrett 1, Wm. Bittle sur, sd 502 ft, dropped until work begins.

DEWITT COUNTY—L. W. Capps et al, Buchhorn 1, 211.1-ac tr, S. V. Slade sur, at the town of Lindenau, 5 mi w Cuero, dr 2050 ft. Universal & Gillespie's Schubel 1, C. Fitzgerald sur, abt 2 mi nw Yoakum, td 1567 ft, set 6⅝-in csg at 1650 ft, cap 1550-57¼ ft, mud 1557½-67 ft, bailed down cement broke, now dr 1572 ft.

DUVAL COUNTY—Conservative Oil Co.'s DCRC 2, 330 ft nel, 990 ft sel of w½, sur 51, blk 12, skidding on dk & rig. Cox & Hamon's J. B. Peal, sur 796, 1 mi ne Lopez, cored sand 2140-45 ft, set 7-in csg 2140 ft, swabbing into pits, showing est 15 b.p.h. Gifford Oil Co.'s A. S. Roach 1, sur 200, 7 mi sw Driscoll field, sand 2499-2505 ft, slight oil show, dr 3710 ft. C. G. Glasscock's Milano Land & Gardens No. 2, sec 88, 4 mi se Loma Novia, td 3298 ft, set csg 3291 ft, dr ahead to 3405 ft, d & a. Tom Graham's S. Sutherland 1, 2310 ft nl, 990 ft wl of 170-ac tr, sur 188, 14 mi s of Freer, dr 1285 ft. Frank J. Gravis Schallert 1-A, sec 555, Palangana salt dome, dr 2000 ft. Chas. T. Kleiner's T. E. Chernoskey, n 30-ac of se 60-ac, sur 226, ¾ mi nw Westmeimer & Daube No. 2 sand 2693-2708, set 7-in csg 2707 ft, perf csg in Loma Novia sand with 20 shots, perf with 50 more shots, no shows, sd, woo. M. D. Mastin's D. Ruiz 1-A, sur 128, d & a 2854 ft. Navarro Oil Co.'s W. R. Peters 1, w 480-ac sur 39, n of Peters field, oil, gas, and sw sand 2615-2734 ft, td 3005 ft, ran Schlumberger, gun perf 1780-90 ft in Cole sand, comp as gasser. Pan American Prod. Co.'s J. F. Welder Heirs 1-H, 160-ac lse in sur 103, 1 mi sw of Loma Vista, sp. Randon Oil Co.'s Central Securities Co. 1, lot 23, Central Securities sub., Diego Minjosa, 5 mi sw of Realitos, top Jackson 2975 ft, top Hockley 3656 ft, top lower Gov't Wells 3812, d & a 4605 ft. Rogers & Rogers' C. & C. A. Cuellar 2, 330 ft nwl & nel of 100-ac tr, sur 117, 760 ft nw No. 1, dr below 1000 ft. E. R. Hagist 1, sec 265, 2 mi ne of Eagle Hill, d & a 2580 ft in Petters sand; Rita S. de Pena 1, R. S. Pena plat, El Mesquite Trinidad Vela gr, se Cole field, td 2865 ft, sand 2850-62 ft, set csg 2845 ft, shut in for storage, tanks erected. Smith & Hamill's Juan Benavides 1, Juan Benavides Lands, E. Mesquite gr, dr 3465 ft. Shell Pet. Corp.'s J. F. Welder Heirs 1-B, 79.3-ac lse in sur 69, 1¼ mi nl Loma Vista field, 3 attempts to dst in sandy shale 2863-74 ft failed, coring ahead. J. T. Stover's W. J. Hester 1, 330 ft sl, 990 ft wl of ne¼ of sur 47, ¼ mi w of Gov't Wells prod, sand 2251-60 ft, set 7-in csg, dr plugs.

FRIO COUNTY — Amerada Pet. Corp.'s Halff & Oppenheimer 7, B. J. Gilman sur, Pearsall, td 3926 ft, pb to 3877, sd; dropped until work begins; Arthur Michael 2, A. Lynch sur No. 321, Pearsall, td 5431 ft in Austin ch, set 7-in csg; C. A. Miller 1, 394.3-ac tr in B. Satello sur, No. 323, Pearsall, set 7-in in Austin ch, dr ahead 5430 ft. Termo Co. of Texas' J. D. Arp 1, 102-ac tr, S. Blain sur, 4000 ft w Pearsall field, td 5920 ft, top Austin chalk 5502 ft, show some oil, shot hole heaved, co to btm.

GILLESPIE COUNTY—A. Kothman's A. Marshall 1, 700 ft nl, 295 ft wl of 143-ac tr, sur 256, 6 mi se Loyal Valley, sd 250 ft.

GOLIAD COUNTY — Keystone Royalties Co.'s C. B. Wood 1-A, Rios sur, 3 mi e Berclair, sd 6702 ft, dropped until work begins. Claude Morgan et al's Mrs. W. O. Maetze 1, G. Barrera sur, dr 4370 ft. Pettus O&R Co.'s P. H. Hickle 1, 231-ac tr, J. Gomez sur, ½ mi ne N. Pettus field, dr 3361 ft. Sun Oil Co.'s Lena Fromme 1, L. A. Maetze sur, 10 mi n of Goliad lcn. Zeni Oil Co.'s M. Lutenbacher 3, sw ¼ of blk 25, Goliad Town sur, 2 mi s Goliad, dst 4150-60 ft, slight gas flow, top Pettus 5365 ft, took core, recovered bottom 6 inches showed sandy shale, attempted to blow out, set 7-in csg 5352 ft, cemented with 560 sacks, dr plugs, blew out again, killed, now wo 3-in ds, will then take another core.

GONZALES COUNTY—Tull et al's Boska 1, 61.2-ac tr, B. McClure sur, co 2050 ft.

GUADALUPE COUNTY — Ira L. Armstrong's F. H. Fieke 1, 304-ac tr, B. & G. Fulcher sur No. 19, near Staples, fsh td 598 ft. Pat Armstrong's J. F. Fulcher 3, Robt. Smith sur, 2 mi sw Prairie Lea, sd 2477 ft, dropped until work begins. Clark & Weinert's W. O. K. Anderson 1-A, Green DeWitt sur No. 11, 6 mi s Kingsbury, 50 ft fr No. 1 Anderson, dr 2163 ft in ch. Eickenroht & Gallagher's O. H. Jahns 1, 840-ac tr, Green DeWitt sur, 3 mi sw South Darst Creek, td 3134 ft in Buda, ream to 2750 ft, set 6⅝-in csg to 2739 ft, will dr plugs July 23, 1936. Long & Ross' Ed. Felix 1, 1½ mi s fr New Berlin, 75-acres, V. Duran sur, ru. Riddle Oil Co.'s E. Nolte et al 1, J. Sowell sur, 6 mi e Seguin, sp.

HIDALGO COUNTY—J. T. Barlow et al's Chapa 1, tr 252, por 39, n side Samfordyce field, td 3200 ft, pb 2800 ft, cored sand 2938-59 ft, shale 2959-60 ft in sdtr hole, 114 ft of liner lost in hole just above td of 2959 ft, pb to 2450 ft, sdtr at 2475 ft, dr 2613 ft in sdtr hole. Gulf States Oil Co.'s John Engelman 3, 200 ft el, 300 ft sl of lot 3, blk 70, Las Mestinas gr, reinstated, td 6812 ft, killed, recemented, ran sw and distillate from sand 6688-96 ft, pb, will gun perf 6686-91 ft, woc. Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Impr. Dist.) 2, lot 1, blk 20, Alamo Land and Sugar Co. sub., Alamo gr, 4 mi s Alamo, td 731 ft, still pumping fresh water. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 44, porc 46, Reynosa Juris, 4 mi e Samfordyce field, sd 1856 ft, dropped until work begins. Union Sulphur Co.'s ARGL No. 7, tr No. 2309, blk 59, 4000 ft e Mercedes field, td 7608 ft, 5-in csg 7530 ft, recemented liner, dr out to 7588, reperf & sd, woo; ARGL&I Co. 8, lot 2120, blk 87, N. Capisalle dist., N. Mercedes field, td 7822 ft, 5-in csg 7822, pb to 7500 ft, pb to 7218 ft, will sdtr, set 5-in csg at 7450 ft in sdtr hole, making prod test; ARGL&I Co. 10, blk 50, tr 2418, N. Capisalle dist., prep sp.

JACKSON COUNTY — Steinberger Pet. Corp.'s Drushell 1, lot 6, Gale sub, Hayes ranch, N. Rodriguez sur, edge Edna gas field, td 5132 ft, lost slips, pushed slips to side cementing it there, sdtr, dr 3425 ft in sdtr hole.

JIM HOGG COUNTY—J. J. Cosner's E. Vela Heirs 1, blk 5, Clark & Cowder sub, sur 571-572, sh 1, El Peynote gr, 5 mi se Henne-Winch Farris field, lcn, dropped until work begins. Theo Hicks et al's Kohler 1, blk 9, sub Noriseitas gr, 3 mi nw Hebbronville, mim. J. H. Meek, Jr.'s Martinez 1-A, sur 623, set 10-in csg at 100 ft, woc.

JIM WELLS COUNTY — Camp Drilling Co.'s Jane Schallert 1, 1134.83-ac tr, sh 3-A, Los Presenos De Abajo gr, 2½ mi w Bentonville field, ru. Gist & Graddy's B. W. Owens 1, Poitevant sur, nw Bentonville field, dr 3500 ft; J. Bennett 1, lot 87, sec 76, Holdeman sub, 2 mi w Premont field, td corrected to 350 ft, prep set sur csg. La Jita Corp.'s Fred Erck 1, sec 15, 1 mi n of Bentonville disc, well drilling 3462 ft, hard sandy shale; Hayden et al 1, ne¼ of sec 19, Richard King Farm lots, dk. Stanolind O&G Co.'s F. L. Blundell 2, 330 ft sl & wl of sw¼ of sec 16, 160-ac tr, King Farm lots, dr 685 ft, will set 1000 ft sur csg; Frame & Bowers 1, sec 14, King Ranch sub, 1 mi ne Bentonville disc, dst 5385-5394, failed set csg 5405 ft, td 5425 ft, dst will seat at 5396 ft, top plug 5417 ft showed 2640 ft sw; J. J. Thompson 1, sec "A," King Ranch, 150-ac tr, sand 5395-5400 ft, dst 5357-5405 show 100 ft mud with a trace of oil, ¼ and ⅜ chokes, 15 min, no pres, ran electric formation test, attempted dst 5391-5405 ft, dr to 5705 ft, set csg at 4000 ft sand level, comp through perf in 4000 ft sand, 3/16-in ch, cp 1660 lbs, tp 1580 lbs.

KARNES COUNTY—De Graffe & Reele's Cochron 1, McConnell League, 5 mi ne Riddleville, ru and sd. Hickman et al's R. L. Barnett 1, Alex Hunter sur, sd 1800 ft. Worth Oil Co.'s E. Hysaw 1, 1069.8-ac tr, Don Erasmus Seguin gr, w of Kennedy, set sur csg, wor, dropped until work begins.

KERR COUNTY—Auld & Evans' I. R. Henner 1, sec 13, BS&F sur, 25 mi nw Kerrville, sd 2838 ft.

KIMBLE COUNTY—Dr. B. R. Thomas' B. D. Rust 1, sw¼ sec 47, BS&F sur, 13 mi nw Junction, sp and sd for orders.

KLEBERG COUNTY—Clark et al's Kivlin 2, Fernando Creek, blk 8, sec 39, KT&I subd, sd 1425 ft. McCord & Daybault's Killam 1, lot 7, sec 53, DT&I sub, 5 mi se Recardo, lcn.

LASALLE COUNTY—Davenport & Talbot's G. Watkins, sur 103, 25 mi e Encinal, sd 2729 ft. Kennedy & Johnston's Gilmer & Wildenthal 1, 140-ac tr, sur 283, 8 mi se Cotulla, dk blew down, rebldg. Paul Meadors & Adair et al's Reed 1, sec 136, T. Conlan sub, 15 mi e and 10 s of Cotulla, sd for fuel, td 3125 ft, whipstocked out at 2592 ft, dr 3720 ft. W. H. Vernor's M. G. Jeffries 1, sec 726, HE&WT Ry sur, 10 mi se Artesia, dk blew down, rebldg.

LAVACA COUNTY—Cole Pet. & Rhea Nixon's Reed E. Nollkamper 1, 3 mi se Kurxl, in 65.7-ac tr, sw cor of Arch Smothers sur, sd 2399 ft. Goode & Mayton's M. Schaffer et al 1, 481-ac lse, W. R. Hensley sur, lcn.

LIVE OAK COUNTY—Carrol Brown's R. A. Rackley 2, e¼ of 130-ac tr, J. L. Parks sur, Ab-781, 2½ mi sw of Whitsett, d & a, 1107 ft. Dirks Bros.' A. E. Nichols 1, S. Ryan sur, resume dr 1290 ft. Adolph Douvre's San Antonio Joint Stock Land Bank 1, plat 27, Tips subd, Richard Everett sur, 2 mi nw Three Rivers, top Gov't Wells 1490 ft, sw, top Mirando 1650 ft, sw, blew out, ran wild for 2 days, killed after pumping 200 sacks of baroid into hole, (all figures revised by SLM) upper Cockfield 1792-1802 ft, upper portion carried 25 mcf gas volume, shale 1802-1808 ft, cored Pettus sand saturated with oil 1802-21 ft, drilled sand 1821-32 ft, show oil, Conroe sand 1977-2002 ft, all sw, hung 5 3/16-in csg at 1865 ft, cemented with 150 sacks, will perf 1808-15, recemented, will dr plugs July 23, 1936. Inter-Allied Pet. Corp.'s Aetna Life Ins. Co. 1, J. Pottevant sur, 49.47-ac tr, 6 mi ne Dinero, dk and sd, dropped until work begins. J. J. McRoberts et al's J. D. Mahoney 1, 142-ac tr, Thomas Henry sur, 3 mi w Three Rivers, dr 1000 ft; Sun Oil Co.'s J. G. James 1, 3265 ft nel, 466 ft sel of 1258.3-ac tr, Pat McGloin sur, 1 mi e Mikeska, clearing lcn.

MAVERICK COUNTY — Rio Dev. Co.'s Winchester Kelso 1, 297-ac tr in sur 2, 3 mi ne fr Eagle Pass, sp & sd. Thornton & Underwood's Thompson Heirs 1, Uvalde County School Land sur No. 2, 6 mi n of Eagle Pass, mir.

McMULLEN COUNTY—Comet Oil Co.'s H. L. Lark 1, 150 ft sl & wl of blk 110, Lark subd, E. W. B. Scrugham sur, sp & sd. R. J. Hill et al's J. Richardson est 1, 990 ft el, 1650 ft nl of sur 158, S. & M. sur, dr 2700 ft. Humble O&R Co.'s D. W. Rhodes 2, 330 ft sl & el of sw¼ sec 17, 1½ mi ne Rhodes field, coring 2575 ft, sand 2481-94 ft, test sw & some gas. Rancho Oil Co.'s La Chusa 1, 330 ft nl & wl of se ¼ of sur 52, lcn. C. C. Shumway's Shiner Ranch 9, sec 51, Shumway sub, Shiner Ranch, 9 mi s Wetz, top Jackson 814 ft, dr 1245 ft. Ike W. Taylor's H. L. Lark 1, 150 ft out of sw cor of lot 72, Lark subd, E. W. B. Scrugham sur, between Jacob & Callihan fields, ru. Travelers Oil Co.'s Chas. T. Lark 2, 150 ft wl, 330 ft n No. 1, 50-ac tr, E. W. B. Schrugham sur, blk 114, coring for Jacobs sand 1030 ft.

MEDINA COUNTY — Frank A. Brown's Mary Winn 1, John Ward sur, sd 1100 ft. N. C. Johnson's R. T. Taylor 2, 320-ac tr, Henry

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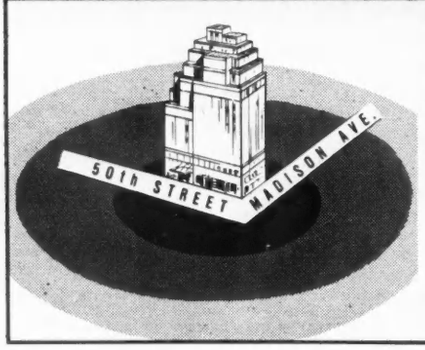

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Castro sur 136, mim. Thomas & Rife's Amelia Zadich 1, S. O. Lubbock sur, No. 504, se cor county, set sur csg, wocs.

MILAM COUNTY—J. O. Kilgore, Tr.'s W. R. Newton 1, J. Reed sur, Buckholt, d & a 2567 ft.

NUECES COUNTY—Mills Bennett's J. K. Ordner 1, 120-ac tr, AB&H sur, No. 410, ab 991, ½ mi w Saxet field, dr to 5918 ft, pb to 4000 ft sand, set 7-in csg 4150 ft, perf 4096½-4101½ ft, dst rec frbls sw & little oil, re-cement prep perf again. Coastland Oil Co. & Keystone Royalties' (Paul Benedum et al) Page Bros. 1, a 50-ac share 2, Geo. Franks sub, 3300 ft w Saxet field, td 5931 ft, pb dst 5740-58 show 22 fourbles gasoline & mud, 450 lbs pres in 5 min, sand 5741-58, td 5758 in sdtr hole, set 5-in csg on btm, perf 5751-55 ft, comp 65 bbls gasoline per day, wp 1850 lbs. J. T. Cox's John Haney, share 11, Harney lands, Gregoria Farias gr, 2½ mi se Callahan, sd 2085 ft. O. W. Killam's O. S. Crook 1, 330 ft sl & el of ne¼ sec 115, F. Z. Bishop subd, Driscoll Ranch, 2 mi ne of Bishop, mim; Betty Ellich 2, 600 ft s No. 1 Ellich, td 3922 ft, sand 3881-3908 ft, setting csg, ran electric formation test. G. M. Richardson et al's P. S. Carter 1, center of nw¼ of se¼ of sec 8, Laurels Farm tr, mim for 7000 ft test. Texon Drlg Co.'s Mable Eliff 1, 3054-ac tr in A. Longria sur, 2½ mi sw of Agua Dulce field, dr 5692 ft, shale & shells.

REFUGIO COUNTY—Mills Bennett Prod. Co.'s Fred Walzell 13, Bonnie View sub, E. Lopez sur, 7 mi s Refugio, d & a 6314 ft. Benedum & Trees' R. H. Welder 1, commence west corner Friedline pasture, thence n 53 degrees east 4443 ft to location in Jaun Pabedano sur, ab 49, ru. E. W. Price et al's R. H. Wood 1, 600-ac lse in Dona Anastacia Reojas sur, ½ mi n Woodsboro and 4 mi s Refugio field, mim. Tide Water Oil Co.'s E. G. Landgrof 1, 220-ac tr, J. Collyer sur, eastern portion county, pits dug, moved in material & sd for weather.

SAN PATRICIO COUNTY — Atlantic Oil Prod. Co.'s Maryland Trust Co. 1, blk 17, B-C sub, 1150 ft sw discovery well, Aransas Pass field, td 5350 ft, twisted off ds, set whipstock at 4904 ft, sdtr. Benedum & Trees' Mrs. E. H. Welder 2, sec 19, Welder Ranch sub, 3½ mi ne Sinton, td 7019 ft, pb 5027 ft td in pb hole 5720 ft, d & a. Bunte's W. C. Mayfield 1, tr 11, Roos sub, 2 mi n White Point field, abnd. L. A. Douglas & Empire O&R Co.'s Hulda Konze 1, 330 ft out of ne cor of sec 15, tr 2, 200-ac tr, Welder subd, Patrick Fitzsimmons sur, 3½ mi sw Sinton, digging slush pits. O. W. Killam's J. F. Green est 1, 782-ac tr, R. Roos sur, 1½ mi sw Taft field, sp. Joe Lundin & Rowan and Hope's Mrs. E. W. Welder 1, sec 80, Welder Ranch sub, 2½ mi sw St. Paul, td 5005 ft, prep sdtr, dr 3515 ft in sdtr hole. Plymouth Oil Co.'s E. H. Welder 2-D, sec 4, Welder Ranch subd, 1 mi e Sinton field, sand 5533-41 ft, set 7⅝-in csg, woc. Trinity Drlers' W. C. Mayfield 1, 153 ft wl, 237 ft nl of lot 11, Roos subd, 2 mi n of White Point gas field, lcn, replaces Bunte's Mayfield 1.

STARR COUNTY—J. F. Anderson's Yzaguirre 1, 139-ac tr, porc 79, dr 2400 ft. Jno. F. Anderson's Garcia 1, 450 ft n of nw cor of sh 196, in sh 199, porc 90, se of Barbocoas field, dr 615 ft. John H. Clopton's Kelsey-Bass 3, 2460 ft el of porc 87 and 665 ft n State Highway No. 4, d & a 710 ft. Porter Evans' H. F. Ferry 1, blk 3 Evens sub, Ferry lands, porc 86, 7 mi se Rio Grande City, sp. F. Davenport & Slick Urschel's T. B. Slick Est. 1, el of sec 485, sp. A. A. Kelley's N. Gonzales 1, 100-ac lse, sh 62, porc 71, sp and sd. Killam & Staggs' S. D. Ricaby 3, porc 83, Camargo Juris, 3 mi se Rio Grande City field, td 977 ft, cored gas sand 963-974 ft, shale 974-977 ft, gas sand 977-93 ft, dr ahead. Ed Leach's Dona Est. 1, porc 84, Juris of Camargo, cored gas sand 963-975 ft, tested 320 lbs pres, 15 min, show dry gas, set 5 3/16-in csg 1068 ft, dr ahead 1071 ft. A. G. McMath's M. Guerra & Son 1, blk 25, Conroe subd, porc 55, Juris of Mier 1, dr 120 ft. Moss & Bass' Frank Doyno 2, 150 ft wl, 450 ft nl of blk 3, tr 77-A, Camargo Juris, mim.

WEBB COUNTY—Mid-Continent Pet. Corp. & Oklahoma Co. of Texas, Inc.'s E. T. Laubacher 1, 330 ft out of ne cor of nw¼ of sec 1394, sp.

WILLACY COUNTY — Ruiz & Morton's Santa Rosa, Inc. 1, 330 ft nl & el of lot 12, blk 31, Santa Rosa subd, sh 44, San Juan de Carricitos sur, dk & sd for rig. Shell Pet. Co.'s Yturria Land & Cattle No. 1, sh 65, San Juan de Carritos gr, La Sal Veja prospect, td 5486 ft, pb to 4600 ft, coring below 6795 ft.

WILLIAMSON COUNTY — Fritz Fuch's Jackson 1, Fred Murray 80-ac tr, H. Owen sur, sd 1265 ft. James Holdeman et al's Amor Forwood 1, 160-ac tr, HT&B Ry sur, sec 4, sur 14, sd 965 ft.

ZAVALLA COUNTY—Bay Oil Corp.'s Nat'l Bank of Commerce 1, sec 43, blk "A," AB&M sur, 16 mi se Batesville, td 6585 ft, top Buda lime 6580 ft, pb to 6250 ft, acidized, showed some oil, shoot tested in pb hole, show little oil, reaming to dd. Leona Oil Corp.'s George West 1, C. Bustille sur No. 1, top chalk 5760 ft, sd 6020 ft, contract depth.

TEXAS GULF COAST

AUSTIN COUNTY—W. H. Mitchell's Fenner 1, s of Kenney, J. Fitzgibbons sur, dr shale 1966 ft.

BRAZORIA COUNTY—Gulf's Fairfield 1, Lockridge prospect, A. Robeson sur, pb 8585 ft.

BURLESON COUNTY—M. R. Exploration Co.,s Fontaine 1, e of Caldwell, Wm. Raleigh sur, dr shale 2019 ft. Red Bank Oil Co.'s Grann 1, Chriesman area, woc 200 ft.

COLORADO COUNTY—Sterling's South 1, Garwood area, T. & G. N. sur, sec. 41, ru and sd.

GALVESTON COUNTY—Shell's Maco Stewart 1, Hitchcock prospect, J. Spillman sur, coring 6486 ft. Sun's Houston Farms Dev. Co. 1, 2 mi se of Hughes 1, D. Buckley sur, dr hard sand 3156 ft.

GRIMES COUNTY—Crooke Bros. et al's Greer 1, near Carlos, P. B. Connor sur, sd 2880 ft.

HARDIN COUNTY—Resource Prod. Co.'s Howth 1, sw of Areola, J. Cotton sur running survey of hole at 6016 ft. Republic's Brooks 1, Silsbee prospect, J. W. Brooks sur, fsh 6840 ft.

HARRIS COUNTY—D. B. Cherry et al's Dodger 1, Epsom Downs area, J. T. Harrell sur, lcn. Houston Oil Co.'s Helberg & Lackner 1, Eureka gas field, R. Reinerman sur, dr shale 6985 ft.

JEFFERSON COUNTY—Shell's Carpenter 1, Nome prospect, M. Pevito sur, comp. 574 bbls daily 6005 ft. Sun's Broussard 1, Labelle prospect, B. Blackmon sur, fsh 9843 ft.

MATAGORDA COUNTY—Marathon Oil Co.'s Kontz 1, Midfield prospect, I. & G. N. sur, sec. 11, dr shale 6238 ft. Pierce Estate Inc.'s Pierce Estate 1, ne of McCrosty, Wm. Brown sur, coring 6824 ft. Sun's Craig 1, Hawkinsville dome, T. Williams sur, swabbing 5150 ft.

MONTGOMERY COUNTY—W. O. Belnoski's Wood 1, Willis prospect, Wm. Weir sur, woc 3720 ft. Blumenthal et al's Delta Land Co. 1, Willis area, J. Stokley sur, spudded.

ORANGE COUNTY—Coker Oil Co.'s Mansfield 1, s of Vidor, J. W. Hill sur, sd 2608 ft. Tide Water's Brown 1, Cow Bayou prospect, M. Latham sur, abn 7706 ft.

WALKER COUNTY—L. M. Gay et al's Stubblefield 1, w of Trinity, G. Badilla sur, dr shale 1863 ft.

WASHINGTON COUNTY—Carl Dyer et al's Thomas 1, n of Brenham field, H Hensley sur, dr shale 1985 ft. Sun's Lauther 1, Clay Creek field, N. Clay sur, fsh 6754 ft.

WHARTON COUNTY—Pure's Borden et al 1, Blue Basin, W. H. Leckie sur, dr shale 5160 ft; same operator's Shult 1, L. P. Ogden sur, dr shale 6683 ft.

WYOMING

ALBANY COUNTY—James Lake Oil Co. (George Parkinson et al) George & &Hunt 1, nw ne se 5-17n-75w, dr 1615 ft. Ohio Oil Co., Elisabeth Stiles 1, southwest corner 12-15n-75w, cementing conductor pipe at 72 ft.

BIG HORN COUNTY—J. L. Drumheller, Government 2, nw ne se 17-49n-91w, dr 1036 ft. J. W. Bales, Parker 1, csw sw 23-49n-89w, dr 730 ft.

CARBON COUNTY — General Petroleum Corporation, Union Pacific 1, sw sw nw 5-19s-83w, sd 3500 ft to set cement bridge at 3050-3100 ft. Medicine Bow Oil Co., Mintze-Government 1, cne se 18-22n-78w, ru cable tools.

LARAMIE COUNTY—Amerada Petroleum Corporation, Morton 1, mim.

NIOBRARA COUNTY—Lewis, Gokel 1, sw ne 31-34n-62w, dr 836 ft. Riggs Oil Co., A. A. Spaugh 2, nw ne 5-33n-65w, dr 150 ft.

SUBLETTE COUNTY—Wright & Lackey, Haddenham 1, northwest corner se sw 21-28n-113w, dr 276 ft.

WESTON COUNTY—Conway Oil Co., Government 1, se se nw 7-41n-60w, dr 2435 ft.

WASHAKIE COUNTY—Wyoming Oil & Refining Co., Frison 1, nw sw nw 14-46n-97w, dr 2345 ft.

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COMPRESSOR
Sullivan Machinery Company

Sullivan Machinery Company, Michigan City, Indiana, has announced a new compressor unit designed specifically for truck mounting with power take-off from the truck propeller shaft to utilize the truck engine for drive. The compressor is two-stage air-cooled with capacity of 105 C.F.M. delivered—enough to operate a large rock drill or two pavement breakers.

Features stressed are force feed lubrication, anti-friction main bearings, automatic control and small space requirements so that major part of truck space can be utilized to carry men, tools and materials. Of special interest to gas companies is the special vacuum hood which also permits vacuum cleaning of service lines.

SPEED CONTROL
Link-Belt Company

Link-Belt Company, Chicago, has announced a power control, with short, easy-throw levers; to be known as Speed-O-Matic Control. The advantages are enumerated as (1) elimination of operator fatigue; (2) much speedier operation; (3) greater output.

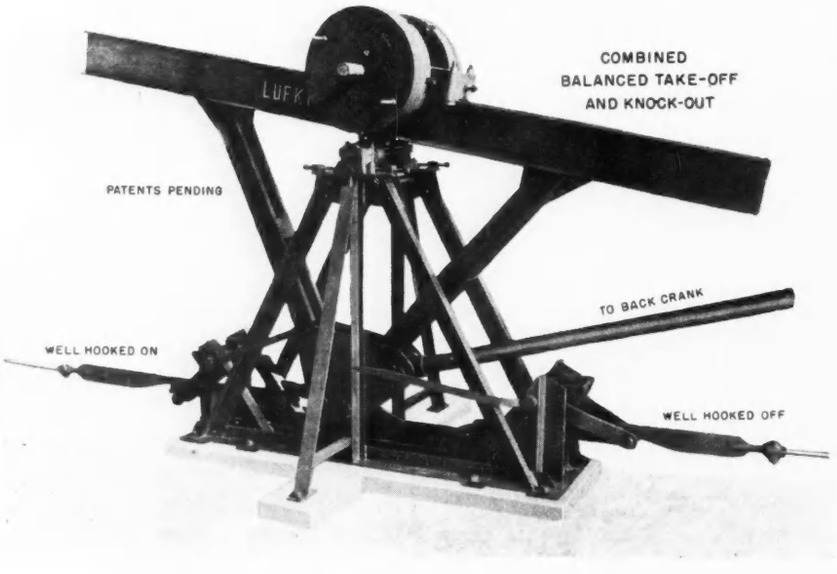
In a simple analogy made by G. H. Olson, general manager of the company's shovel and crane division, the relative ease of operation of a Speed-O-Matic shovel-dragline-crane and the conventional machine with long, hard-throw levers, was compared to the drawing of water out of a faucet by simply turning a handle, and the hand pumping of water out of a pump. In the one case the operator merely controls the flow of the water; in the other instance he actually pumps it up by his own effort. Drawing water out of a faucet requires only an easy wrist motion, as does Speed-O-Matic control; whereas pumping water by hand requires a tiring arm and shoulder motion, as does the operation of the conventional mechanical lever control system. As the arm tires, the speed and volume of work decrease. Thus, it is seen how the elimination of fatigue not only performs a humanitarian duty but also speeds-up all operations, and practically assures that the rate of work at close of day is as fast as at its beginning, the company claims.

The control is referred to as having literally no wearing parts between the clutches or breaks and the conveniently arranged control stand behind which the operator is comfortably seated, at front of cab. Even the foot pedals are operated from this seated position. The large truck type seat is adjustable both as to height and proximity to control stand.

TAKEOFF AND KNOCKOUT
Lufkin Foundry & Machine Company

Lufkin Foundry & Machine Company, Lufkin, Texas, has announced a combined balance takeoff and knockout that is compact and effective in operation, yet extremely simple in design.

This takeoff and knockout is for use with back crank pumping equipment and has met with wide acceptance, particularly in the East Texas field. Wells can be accurately and easily balanced by means of an adjustable roller weight on the walking beam, and at the same time wells may be hooked on or off by the simple manipulation of a small lever at the base of the unit, the manufacturer states.



Lufkin Take-Off and Knock-Out

FLOWMETERS
American Meter Company

American Meter Company, New York City, has announced a new indicating flowmeter case of advanced design, simplicity and attractive appearance. This type of installation to indicate the rate of flow of air, gas, oil, steam or water through a line in which an orifice is installed, is today, in considerable demand. It consists of a modified U gage in which mercury is used as a liquid seal, and a sturdy and attractive case to enclose the pointer and dial.

American Flow Meter

A steel float which rests in the mercury in one of the columns is raised by the rise of the mercury. The float is attached by a lever to a horizontal bearing shaft which extends through an adjustable lapped stainless steel stuffing box into the case.

The differential ranges are: 0 to 100; 0 to 50; 0 to 20, and 0 to 10 inches of water, as specified by the customer. Special ranges are available. Two types of cases can be obtained; the round dial and the segmental dial, as illustrated. The construction of the differential gage is forged steel throughout, the seal tube screwed and welded. All parts within the mercury chamber are stainless steel.

CONTROLLER
The Bristol Company

The Bristol Company, Waterbury, Connecticut, has announced a new line of controllers for temperature, time-temperature, flow, liquid level, pressure, time-pressure, and humidity. These controllers, known as Master Free-Vane Controllers are offered primarily for applications where a greatly reduced sensitivity (wide throttling range) is required and the load conditions fluctuate over a wide range.

The controller is a pneumatic-type instrument operating on Bristol's Free-Vane principle of control. It is similar in many respects to the new Ampliset Controller, an instrument equipped with a sensitivity adjustment, announced by this company recently.

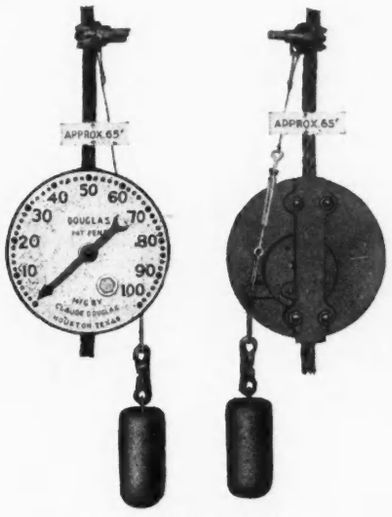
In the Master Free-Vane Controller the basic Free-Vane System is equipped with a sensitivity adjustment, an automatic reset, and accessory features which

minimize hunting; prevent departure from the control setting; make it possible to reach a new control setting without overshooting; make it possible to adjust the anticipatory effect to fit the process lag; make it possible to adjust the resetting mechanism to function in an amount proportional to the rate of change in the process.

WEIGHT INDICATOR

Claude Douglas

Claude Douglas, Houston, Texas, has placed a new weight indicator on the market. It simply measures the stretch in the drilling line, the amount of stretch being indicated in points on the dial, and from which weight on the line is computed.



Douglas Weight Indicator

A single strand of steel wire clamps to the dead line and is fastened to the arm of the quadrant pinion rack on the indicator. As the dead line stretches and contracts, the conductor wire moves upward and downward, actuating the hand of the indicator. A small weight is suspended from the arm of the quadrant pinion rack to force the indicator hand to travel toward zero as weight on the drilling line diminishes.

The indicator itself clamps to the dead line, and is provided with a small turnbuckle to facilitate adjustment to zero.

There are no fluids or springs in its mechanism. Two small pinion gears, both of which are provisioned for lubrication, constitute the total number of moving parts.

TEST OVEN

Despatch Oven Company

Despatch Oven Company, Minneapolis, Minnesota, has announced a rotary test oven for determination of loss on heating oil and asphaltic compounds according to A. S. T. M. and A. S. S. H. O. test specifications, as well as for general laboratory processes which require uniform heat distribution and accurate temperature control. Full details are given in Section C-3 bulletin, which will be mailed upon request.

This Week with the Industry's EQUIPMENT SUPPLIERS

Dowell Increases Michigan Facilities

Dowell, Incorporated, has moved its Michigan treating station from Midland to Mount Pleasant. Formerly using facilities of Dow Chemical Company, this district will have in the future warehouse and garage facilities for its sole use.

New equipment has been purchased including units equipped with the new Dowell high-pressure pump, especially designed and built for use only by the company.

W. S. Day has been promoted to district manager, handling all acidizing operations in Michigan and northern Ohio and Indiana. Treating engineers will be Robert Quinlan, Jack Killon, and E. C. Hardy.

Carson New Distributor for Sievers Reamers

Security Engineering Company, announces the appointment of Carson Machine and Supply Company as exclusive distributors for Sievers reamers in Oklahoma and Kansas. Stocks of Sievers reamers in all popular sizes are now available through all field stores of Carson Machine and Supply Company.

Gulf Coast and other Texas distribution of the Sievers reamer will continue to be handled by Wilson Supply Company who have contributed largely to its introduction in those areas. Foreign inquiries should be directed to Security Engineering Company, 420 Lexington Avenue, New York City.

H. C. Smith Purchases Alco Oil Tool Company

H. C. Smith Oil Tool Company announces purchase of the business and manufacturing plant of the Alco Tool Company in Compton, California. This plant covers more than two and one-half acres and consists of two wings, 300 feet by 80 feet and 400 feet by 80 feet, with a two story general office building in front. Since this deal was consummated the plant has undergone a complete renovation, and a number of modern heavy duty machines have been added to increase materially facilities for the manufacture of oil tools.

H. C. Smith will be remembered by many oil men as the founder of H. C. Smith Manufacturing Company in Whittier, California, which developed H. C. Smith coring equipment, drilling bits, and rotary underreamers. His present organization is now introducing to the oil industry a new line of rotary drilling and coring tools.

H. C. SMITH

McIntosh & Seymour Get Sulzer Diesel License

Effective April 20, 1936, Sulzer Brothers of Winterthur, Switzerland, has licensed the American Locomotive Company to manufacture, use and sell the internationally known Sulzer designed two-cycle Diesel engines. These modern efficient Diesel engines will be built and offered in America by the McIntosh & Seymour Corporation of Auburn, New York, a wholly owned subsidiary of the American Locomotive Company, under the tradename—Alco-Sulzer Diesel Engines.

While Sulzer Brothers was established in Winterthur, Switzerland, in 1834, the

Recently renovated and remodeled H. C. Smith Oil Tool Company. The plant formerly was operated by Alco Oil Tool Company.

name Sulzer has been identified with the metal working industry since 1775. The international reputation of Sulzer Brothers is largely based on their work in developing the modern steam engine. They built their first steam engine in 1851, and few concerns have contributed as effectively in furthering this development. Their connection with steam boilers even preceded their association with the steam engine—they built their first boiler in 1841. Today, with the sole exception of North America, Sulzer boilers are found everywhere along with Sulzer engines.

E. W. STUART

Buster Stuart Now With Byron Jackson

E. W. (Buster) Stuart is now a member of the Byron Jackson sales department and will cover the Corpus Christi and adjacent South Texas areas upon his return from a visit to the main plant in Los Angeles. Stuart is well known throughout the Gulf Coast territory, having previously represented Nowery J. Smith Supply Company, and Bettis Sales Company.

Taylor-Parker Is Named Republic Distributor

Taylor-Parker Company, Inc., Water Street and Commercial Place, Norfolk, Virginia, has been named distributor of Republic tubular products, according to an announcement made by N. J. Clarke, vice president in charge of sales, Republic Steel Corporation, Cleveland, Ohio.

Chas. Miller & Sons, Utica, New York, also has been added to the list of "Enduro" stainless steel distributors.

Lucey Opens New Store At Rodessa

Lucey Products Corporation has opened a new store at Rodessa. Complete stock of parts for all Wheland-Lucey rotary drilling equipment, production equipment, line pipe, supplies and hardware will be carried. District offices will be established at Shreveport, and R. E. Giddens, long associated with the company's headquarters at Tulsa, will be district manager.

Eastman Opens Office at Dallas

The Eastman Oil Well Survey Company has established its general offices at Dallas, Texas, the mailing address being Post Offiice Box 1210. The company's offices at Long Beach, Houston and Oklahoma City will continue to operate from their present locations.

General Electric Increase 40 Percent

Orders received by the General Electric Company for the second quarter of 1936 amounted to $77,398,718, compared with $55,163,014 for the second quarter of 1935, an increase of 40 percent, President Gerard Swope has announced. In the first quarter, the increase was 21 percent. The second quarter of 1936 was the best since the second quarter of 1931.

Orders received for six months amounted to $136,968,597, compared with $104,542,946 for the first six months last year, an increase of 31 percent.

Sales billed during the first six months of 1936 amounted to $119,273,388, compared with $94,546,274 during the corresponding period last year, an increase of 26 percent.

Profit available for dividends on the common stock for the first six months of this year was $16,592,324, compared with $11,541,429 for the first six months of last year. This profit is equivalent to 58 cents a share, compared with 40 cents a share for the first half of 1935, on the 28,845,927 shares outstanding in both periods.

Results for the 12 month periods ended June 30, 1936 and 1935 respectively show sales billed amounted to $233,460,547, compared with $178,360,497 and profit available for dividends on common stock amounted to $32,894,667, compared with $20,516,841.

Well Equipment Company Enlarging Activities

C. K. Stillwagon, president of Well Equipment Company, Houston, has announced the following changes in the personnel of the company.

Martin E. Tatum, formerly a scout for Continental Oil Company in West Texas, is now representing the company in that same territory, taking the place of G. A. Stevens, who has been transferred to Houston.

John Yerger, formerly with Raymond Pearson Motor Company, Houston, has been placed in the company's offices, and G. M. Wilcox, formerly with Hughes Tool Company has been placed in the warehouse department.

The company, having developed a growth in business, has found the need of a machine shop, and machinery has been installed to take care of this work. The services of Fred Stuebben to take care of this work have been secured.

In addition, Riley Carter, who for the past nine years has been with Standard Supply Company of Dallas, has been placed in the Oklahoma territory, to cover Oklahoma and Kansas, with headquarters in Oklahoma City, Oklahoma.

Squeaks from the Bull Wheel

Now He Knows

Billie: "Pa sent me for a piece of rope like this."

Storekeeper: "How much does he want?"

Billie: "Oh, just enough to reach from the goat to the fence."

Honesty Certified

The man applied for a position in a banking establishment. His appearance wasn't prepossessing and references were demanded. After some hesitation he gave the name of a teller in the firm's employ. This teller, he thought, would vouch for him.

The president sought out the teller and asked him whether the applicant was honest.

"Honest?" the teller said. "Why, his honesty's been proved again and again. To my certain knowledge he's been arrested 10 times for embezzlement and every time he was acquitted."

Mementos

An American traveler in Ireland stopped for a drink at a pub. As he sipped his refreshment he noted in the center of the counter under a glass dome a brick with a faded red rose upon the top of it.

"Why do you cherish that common brick and that red rose?" asked the American.

"Shure, sir," answered the proprietor, "there's certain memories attaching to them. Do ye see this big dent in my head? Well, it was made by that brick."

"But the rose?" questioned the American.

The proprietor smiled quietly.

"The rose," he explained, "is off the grave of the man who threw that brick."

Got It

"There goes a fellow who chased around for years trying to land a political job."

"Well, what does he do now?"

"Nothing—he got the job."

Conversation

A New Yorker was touring through New England. He noticed a chin-bearded patriarch on a roadside rock and out of curiosity stopped the car to talk.

"Fine corn," said the traveler, using a hillside filled with straggling stalks as a means of breaking the conversational ice.

"Best in Massachusetts," said the sitter.

"How do you plow that field?" asked

the New Yorker. "It looks so very steep."

"Don't plow it," returned the sitter. "When the Spring thaws come the rocks rolling down hill tear it up so that we can plant corn."

"And how do you plant it?"

"Don't plant it really. Just stand in my back door and shot the seed in with a shotgun."

"Is that the truth?" asked the New Yorker.

"H—ll no," said the sitter, disgusted. "That's conversation."

For Tat

The two were fellow passengers in the club car of a Westbound train.

"So you're an actor, eh?" muttered the stout man. "Well, I'm a banker. And would you believe it, I haven't been near a theater in five years."

"That's nothing at all," responded th actor breezily. "I haven't been near a bank in ten years!"

Too Fast

"Why don't you give your wife an allowance?"

"I did once and she spent it before I could borrow it back."

Delayed

"A nice sort of welcome!" said the father visiting his son at a boarding school. "I am hardly out of the train when you ask me for money."

"Well, dad, you must admit the train was 20 minutes late."

Knows His Temples

"And what is the child's name?" asked the minister.

"Shirley," replied the mother.

"Shirley?"

"Yes, sir. After the famous Shirley Temple."

"Yes, yes; of course," said the minister. "Let me see, who's the preacher there now?"

Lawyers Not Enough

Amos was a chronic thief who usually managed to keep within the petty larceny limit. One time he miscalculated, however, and was sent to trial on a charge of grand larceny.

"Have you a lawyer?" asked the court.

"No, sah."

"Well, to be perfectly fair, I'll appoint a couple. Mr. Moore and Mr. Neal will act as counsel."

"What's dat?"

"Act as your lawyers. You are to consult with them and prepare to tell me whether you are guilty or not guilty."

"Yas, sah."

Amos talked to his attorneys for a few moments in husky whispers. The judge caught only the word alibi, several times repeated. Then Amos arose, scratched his head, and addressed the court:

"Jedge, yoh honah, Ah suttinly would like toh trade one ob dese lawyers foh a witness."

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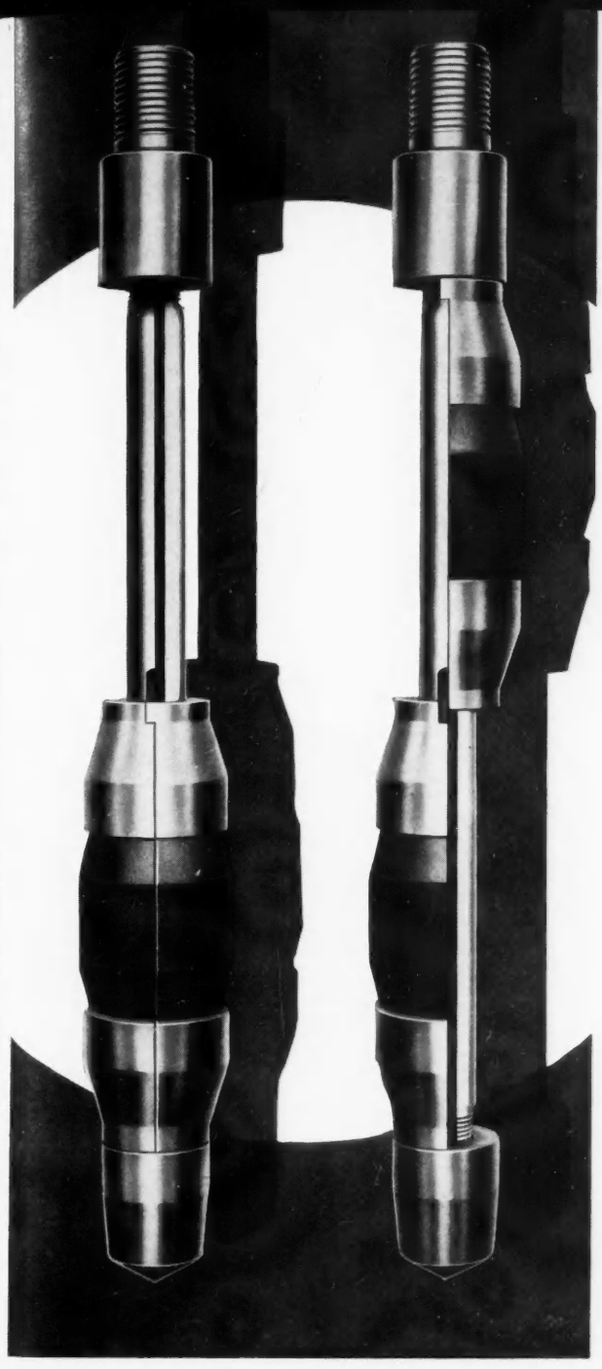

The right hand illustration above, shows the Mission Valveless Open-Flow Swab as it falls in the tubing, with one-half of the swab rubber raised above the other to allow for fluid passage.

The left hand illustration shows the swab on the up-stroke with rubbers side by side in swabbing position.

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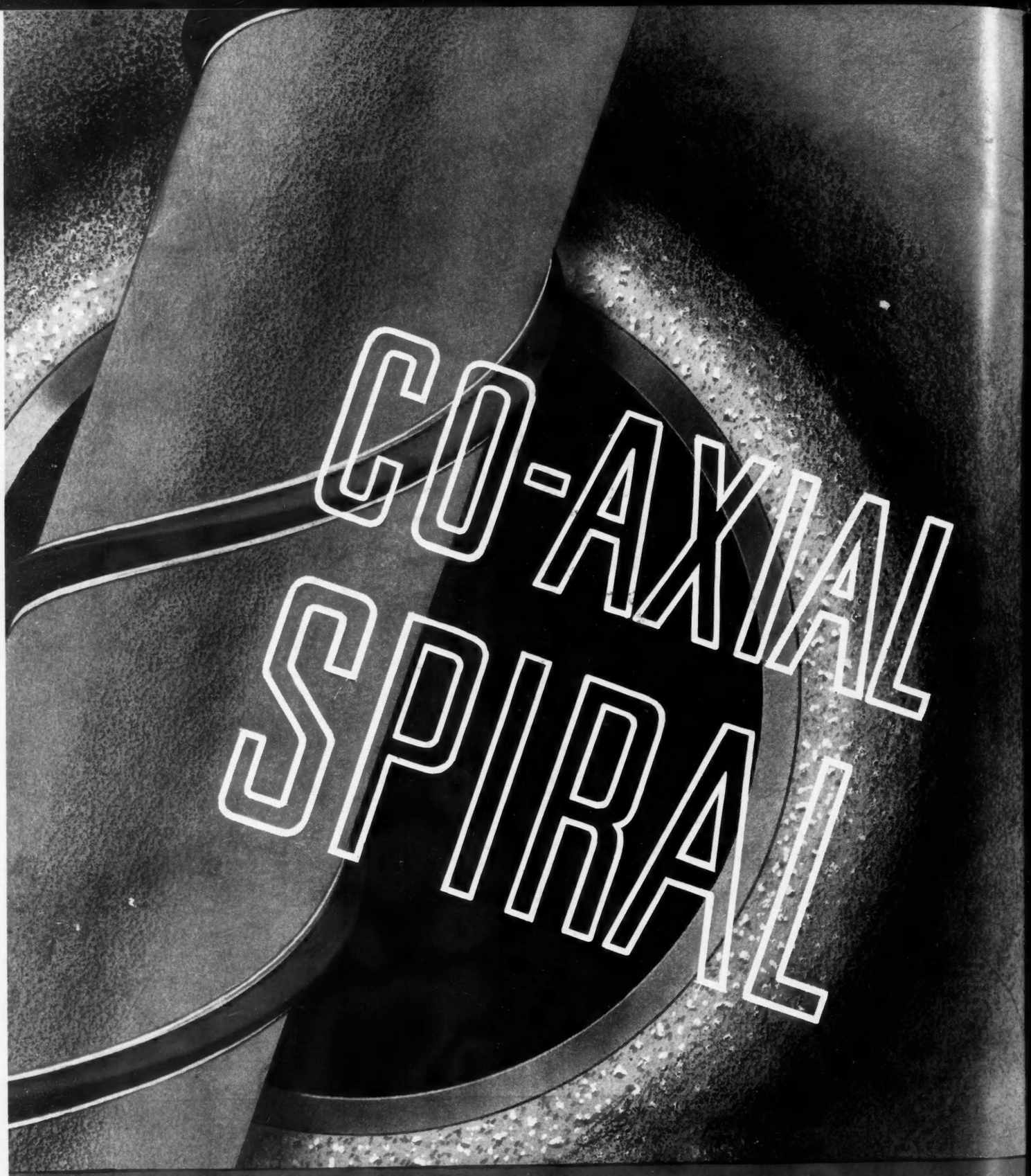

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